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ABSTRACT

During the past 3 years, CAUSE and the University of Miami (Florida) have sponsored a survey to identify the most important issues facing information technology managers for the 1990s. Data from previous years were merged with postcard survey data from the 1994 survey. The survey, which was mailed to 1,012 institutions of higher learning and sent electronically to 81 CAUSE member campuses, had a 51.7% response rate (565 postcards). Networking and coping with limited resources are identified as the most critical issues facing higher education, a finding in keeping with the results of previous years. Among the new issues added in 1994, aligning information technology goals with university goals was considered more important than issues of job security and loyalty. Differences among responses of public and private institutions were generally small, with the greatest difference being that "aging systems" was a far greater concern for private institutions than it was for public ones. Forty-four graphs and four tables present response information, including ranking by size, control, and Carnegie classification of the institution. (SLD)

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ED 376 801

Information Technology Issues in the 1990s: An Analysis from a CAUSE Postcard Survey for 1994

University of Miami, CAUSE

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Information Technology Issues in the 1990s: An Analysis from a CAUSE Postcard Survey For 1994

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Introduction

During the past three years, CAUSE and the University of Miami have sponsored a survey to identify the most important issues facing IT managers for the 1990s. Each year the questions are gathered from previous surveys and from a review of the literature. While some of the questions remained from the previous surveys, several new questions were added. Where it is possible and profitable, results from all three surveys will be compared and contrasted.

Data from the CAUSE Institution Database (ID) were downloaded and merged with the postcard data. This allowed the researchers to analyze the data based on various institutional characteristics, including size, control (public or private), and Carnegie classification. (For the purposes of this study, institutions have been grouped by the categories used in the classification of US. institutions of higher learning by the Carnegie Foundation for the Advancement of Teaching. Categories Comprehensive I and II were combined under the heading "Comprehensive," Doctoral Granting I and II under "Doctoral," Liberal Arts I and II under "Liberal Arts," and Research I and II under "Research.")

Survey Instrument

One of the many CAUSE member services is the Postcard Survey Service. Members can conduct informal surveys of other CAUSE members to collect information through a survey postcard sent to all member campuses. Members return these pre-addressed postcards either to the member requesting the information or to the CAUSE national office. While this survey was instituted by Dr. M. Lewis Temares, Vice President and CIO at the University of Miami, the survey was mailed back to the CAUSE national office and data entry was handled by Ben Zastrocky, CAUSE Research Assistant for Information Resources. Data analysis was performed by Dr. Temares and Dr. Michael Zastrocky, CAUSE Vice President. This survey was mailed to 1012 institutions of higher learning in the US. and electronically via the Internet to 81 CAUSE international member campuses. The response rate was 51.7% with 565 completed postcards received. This compares favorably to the 1993 survey where 1038 surveys were mailed and 548 returned for a 52.8% response rate. The following questions were included on the postcard survey:

1994 CAUSE Postcard Survey:
IT Issues in the 1990s

Rank the following information technology issues in order of importance to you in the 1990s. (1 = greatest importance. Use the "other" line if an issue you consider important isn't listed.)

_____Security Issues

_____Reengineering

_____Networking

_____Training and staff development

_____Aging Systems

_____Effectively coping with limited resources

_____Developing an IS strategic plan

_____Quality issues

_____Justifying the value of IS

_____Downsizing/Rightsizing

_____Client/Server

_____Aligning IT goals with university goals

_____Job security/loyalty

_____Other: _____

_____

Institution name: _____

_____

Summary of Results

"Networking" and "Effectively coping with limited resources" are identified as the most critical issues facing higher education during the 1990s as reported in this year's survey of CAUSE institutions. This follows very closely the results from prior surveys. What is interesting is that the ranking of these two issues was generally the same for both surveys regardless of size, Carnegie classification, or control (public versus private).

Several new issues were added to the survey for 1994, "Aligning IT goals with university goals", and "Job security/loyalty". Of the new issues "Aligning IT goals with university goals" was ranked most important of these two. Overall, 33% ranked "Aligning IT goals with university goals " in the top three while only 3% ranked "Job security/loyalty" in the top three. It is also interesting to note that "Aligning IT goals with university goals" was third as the most frequently ranked issue in the top three, second only to "Networking" and "Effectively coping with limited resources".

"Job security/loyalty" was at the bottom of the list, while "Justifying the value of IS" was second from the bottom at 8%, this was down from 14% who ranked it in the top three on the 1993 survey.

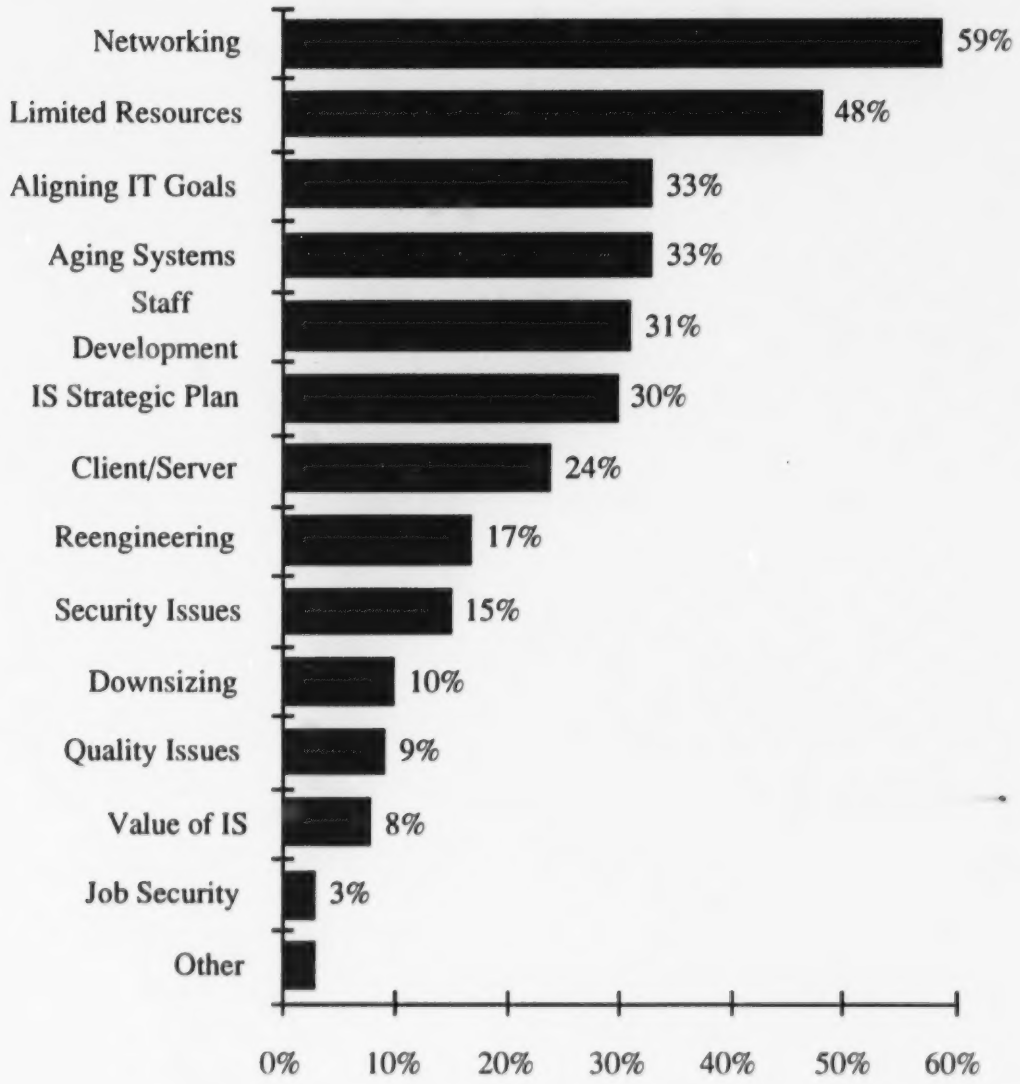
It is interesting to note that the greatest spread between the ranking of the top three by size was with the issue of "Reengineering". Thirty-eight percent of the Research universities ranked it in their top three, while only 10% of the small colleges (≤2,000FTE) ranked "Reengineering" in their top three. Another interesting spread was with the issue of "Aging systems". Thirty-five percent of the 2-year colleges ranked this issue in their top three while only 16% of the comprehensive institutions ranked this issue in their top three list.

The differences between public and private institutions were generally small. The greatest difference came with the issue of "Aging systems" which was ranked in the top three by 18% of the private institutions and 33% of the public institutions.

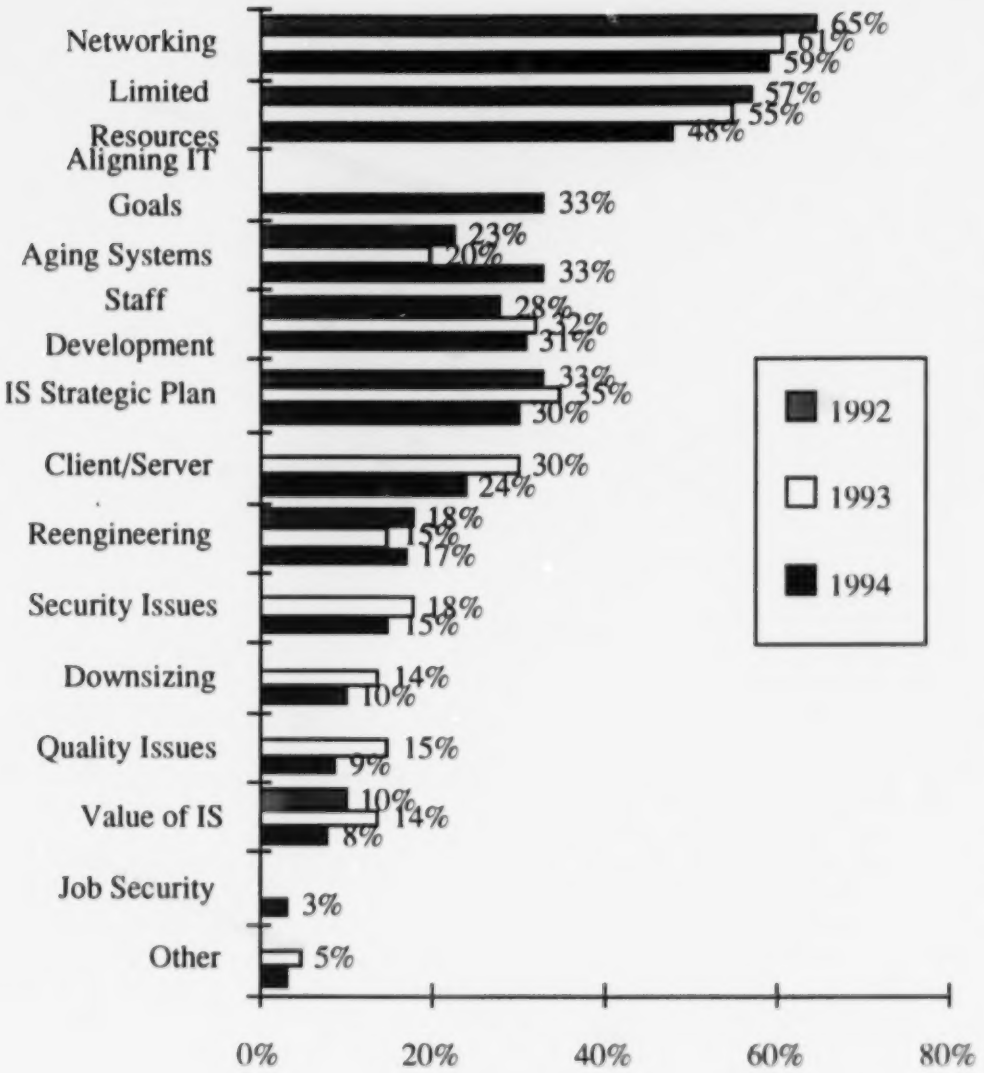
Differences between the categories that were listed at the bottom were quite different. For example, 34% of the Research Universities ranked "IS strategic plan" in the bottom four, while only 6% of the Liberal Arts colleges, 10% of the 2-year, 13% of the Doctoral Granting, and 18% of the Comprehensive Universities placed it in the bottom four.

The first set of charts indicate the ranking of all responses in the top three category based on size, control, and Carnegie classification. The second set indicates the ranking of all responses in the bottom four categories based on the same characteristics. The last set of charts is the actual frequency distributions of all responses. Finally, an alphabetized list of all responses to the "other" category is included and provides another view of the important issues facing the people who manage information technology in higher education during the 1990s.

Percent of All Institutions Who Ranked Each Issue ≤3 (Top Three)
1994



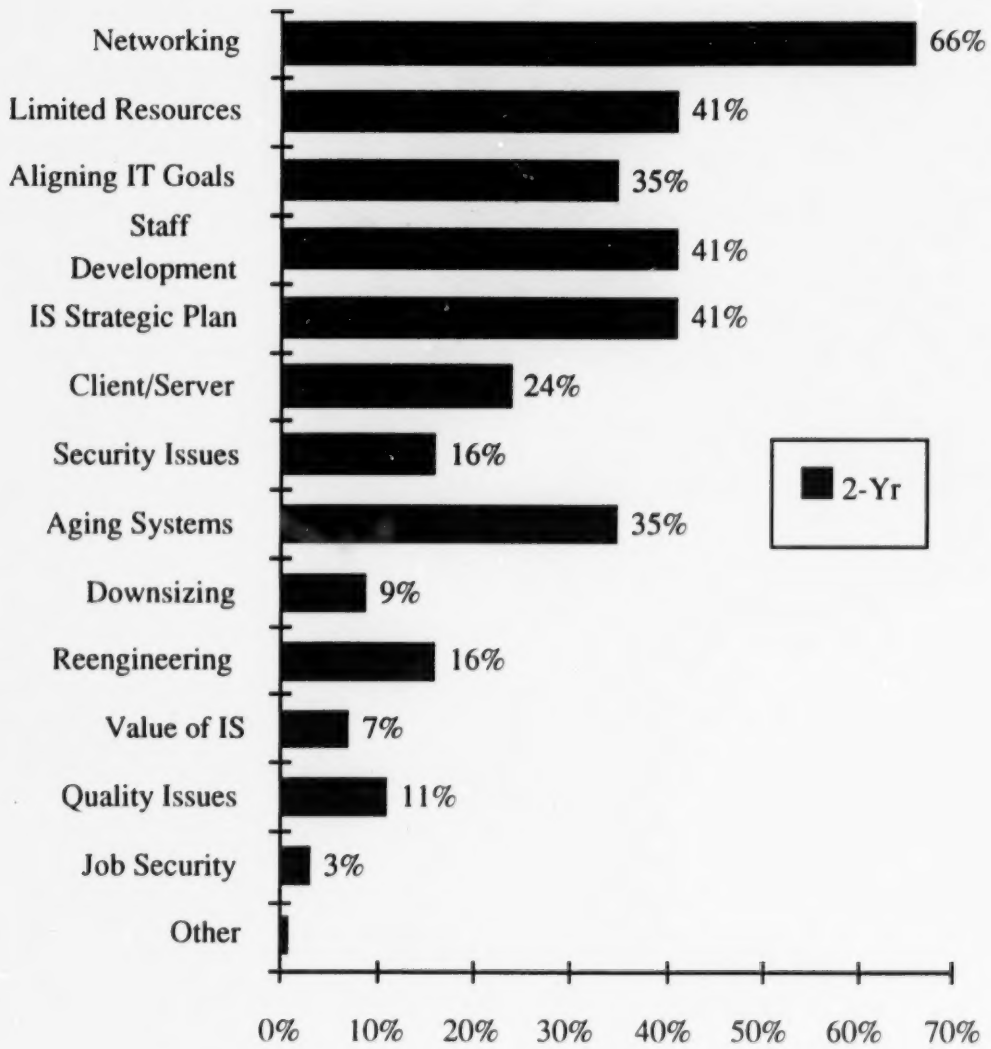
Percent of All Institutions Who Ranked Each Issue ≤3 (Top Three)
1992, 1993, 1994



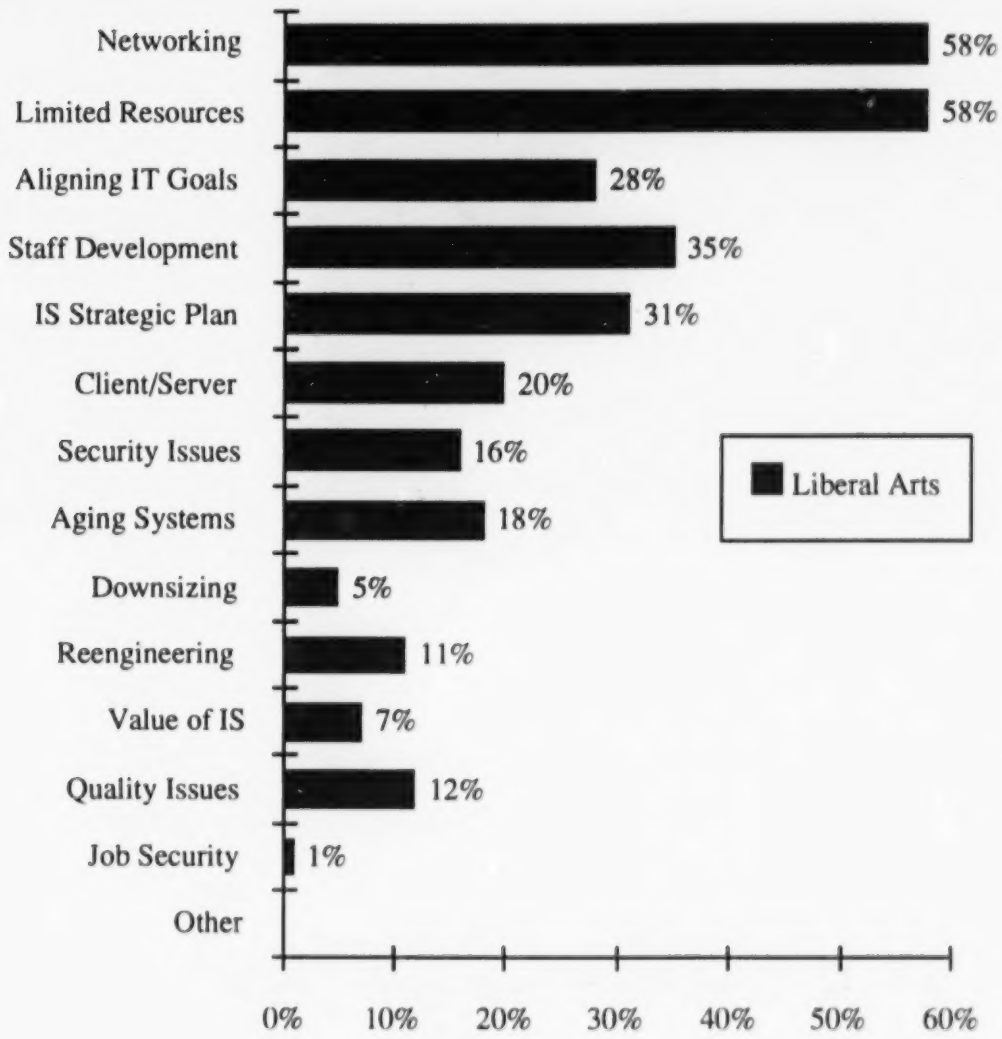
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) by Carnegie Classification 1994

	2-Yr	Liberal Arts	Comprehensive	Doctoral	Research
Other	1%	0%	4%	2%	4%
Job Security	3%	1%	4%	2%	2%
Quality Issues	11%	12%	7%	10%	11%
Value of IS	7%	7%	7%	9%	13%
Reengineering	16%	11%	10%	15%	35%
Downsizing	9%	5%	11%	18%	25%
Aging Systems	35%	18%	16%	20%	25%
Security Issues	16%	16%	19%	15%	16%
Client/Server	24%	20%	21%	24%	35%
IS Strategic Plan	41%	31%	27%	22%	23%
Staff Development	41%	35%	30%	26%	20%
Aligning IT Goals	35%	28%	35%	44%	41%
Limited Resources	41%	58%	51%	48%	34%
Networking	66%	58%	66%	50%	46%

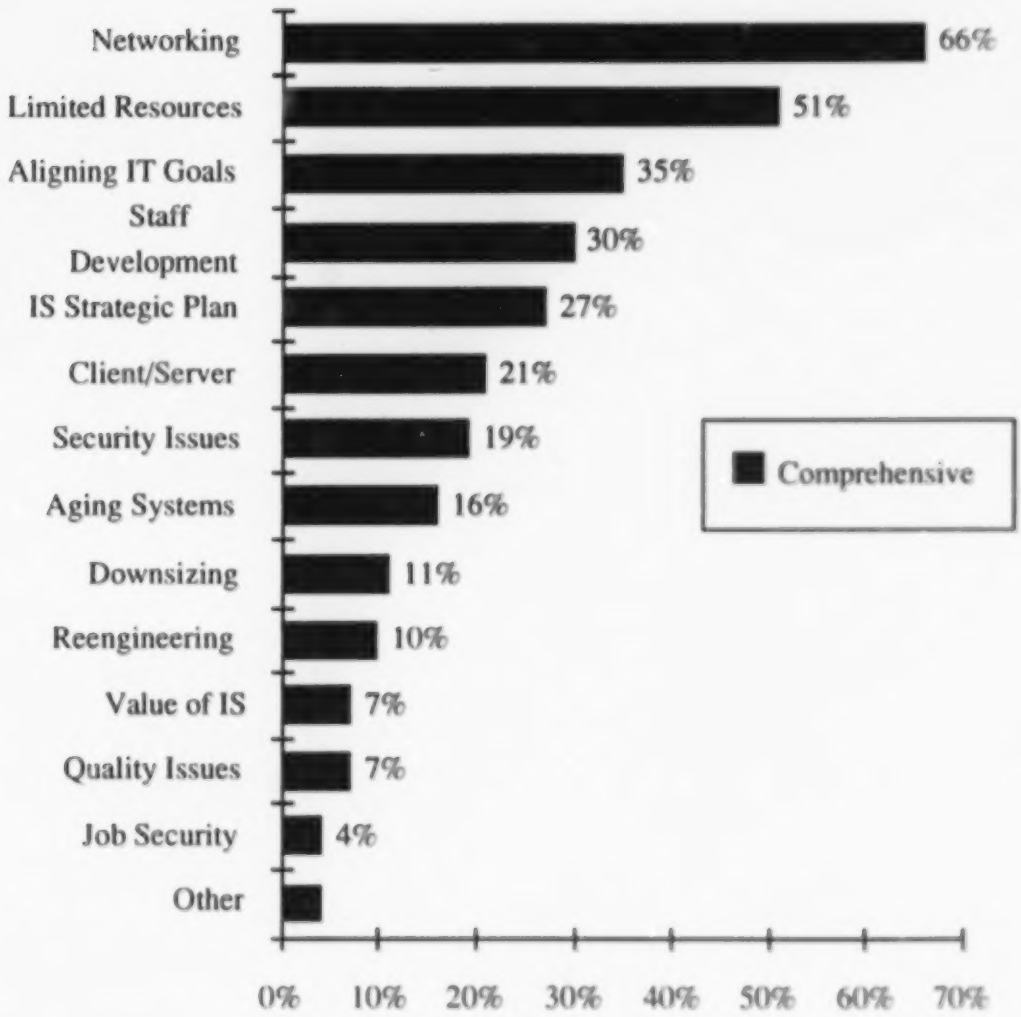
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



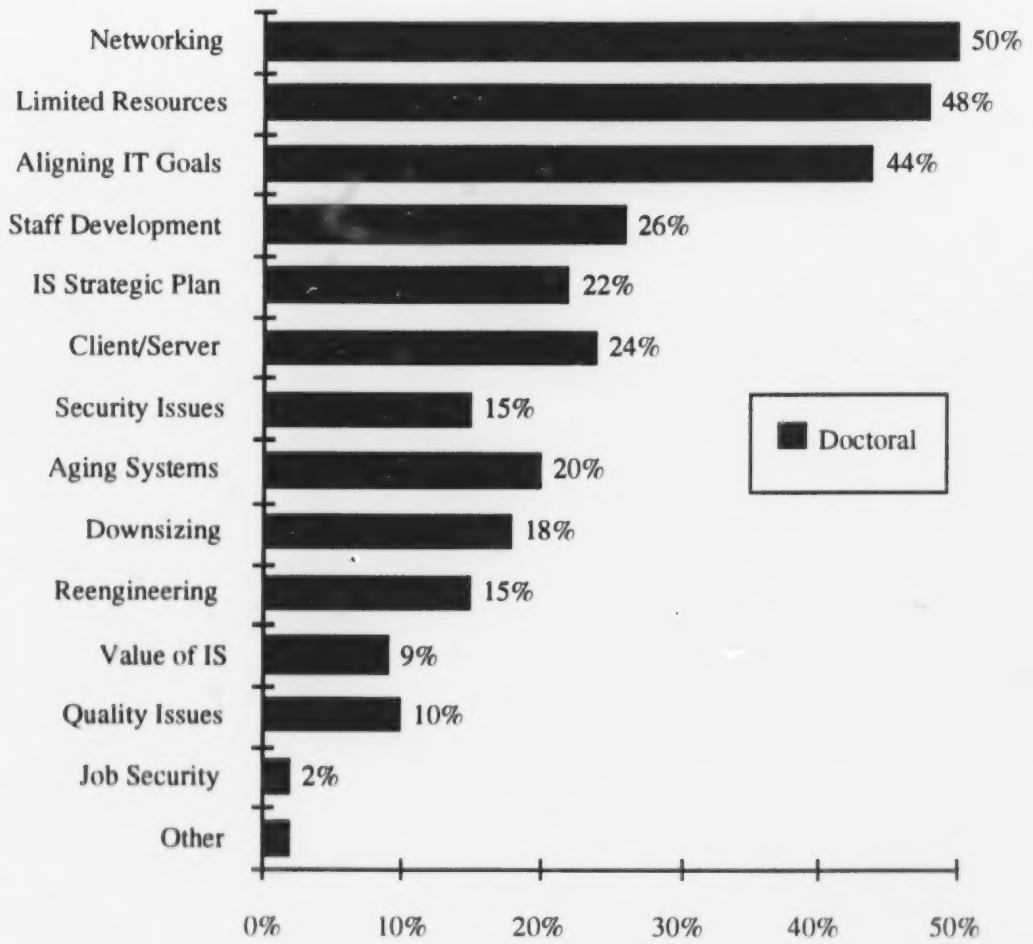
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



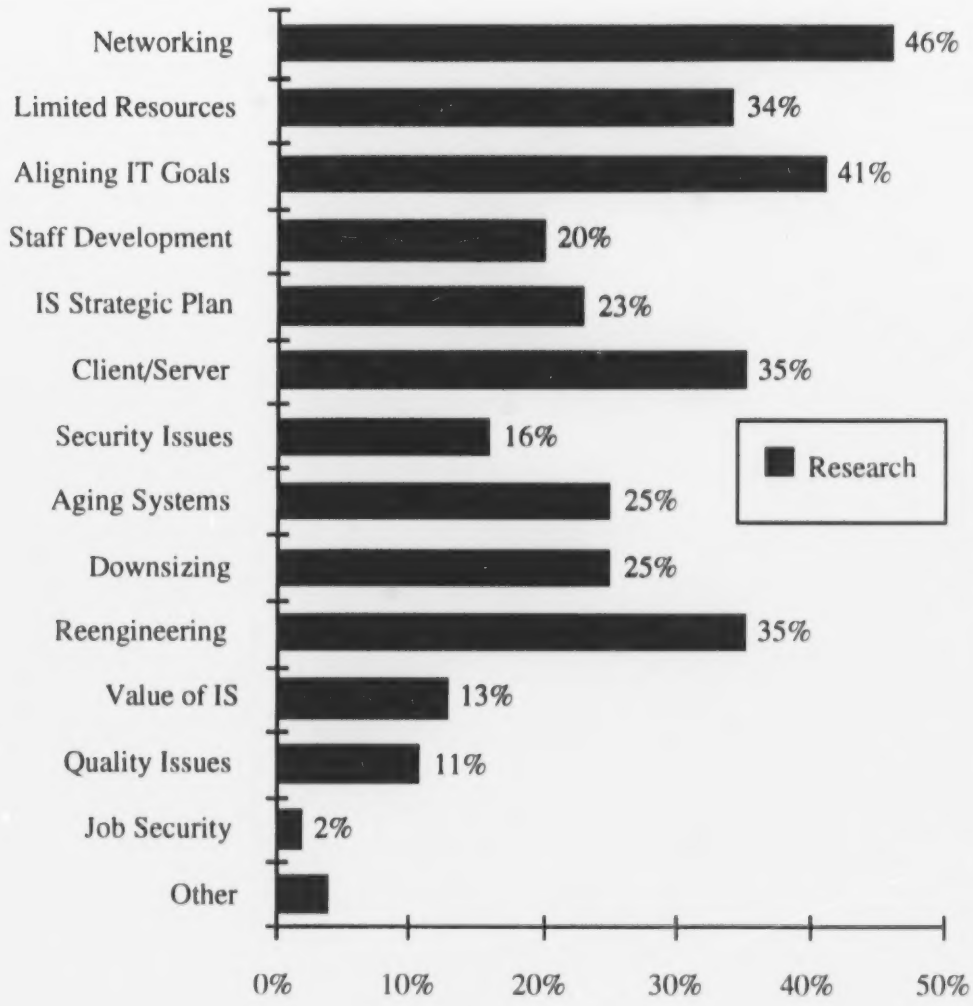
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



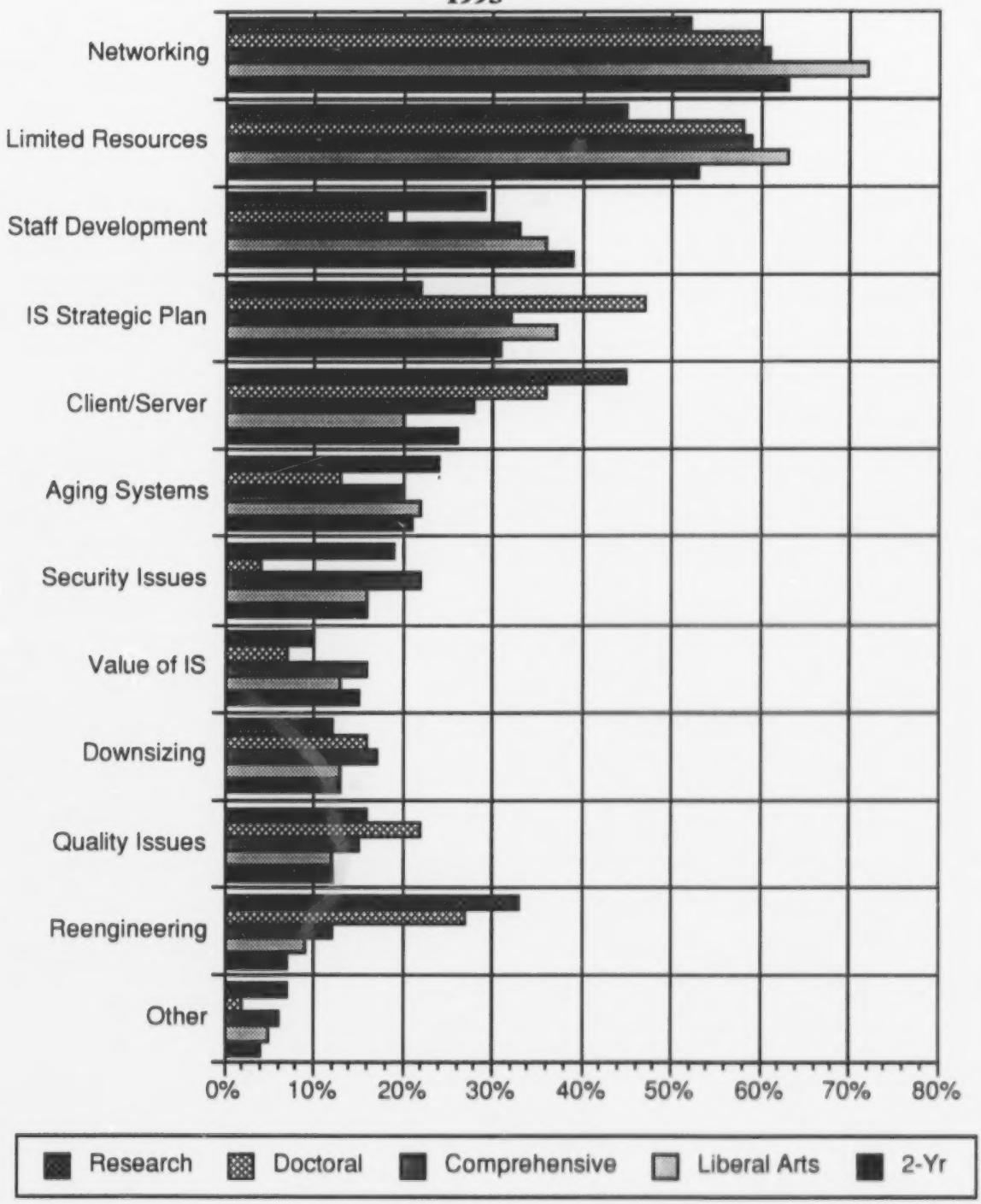
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



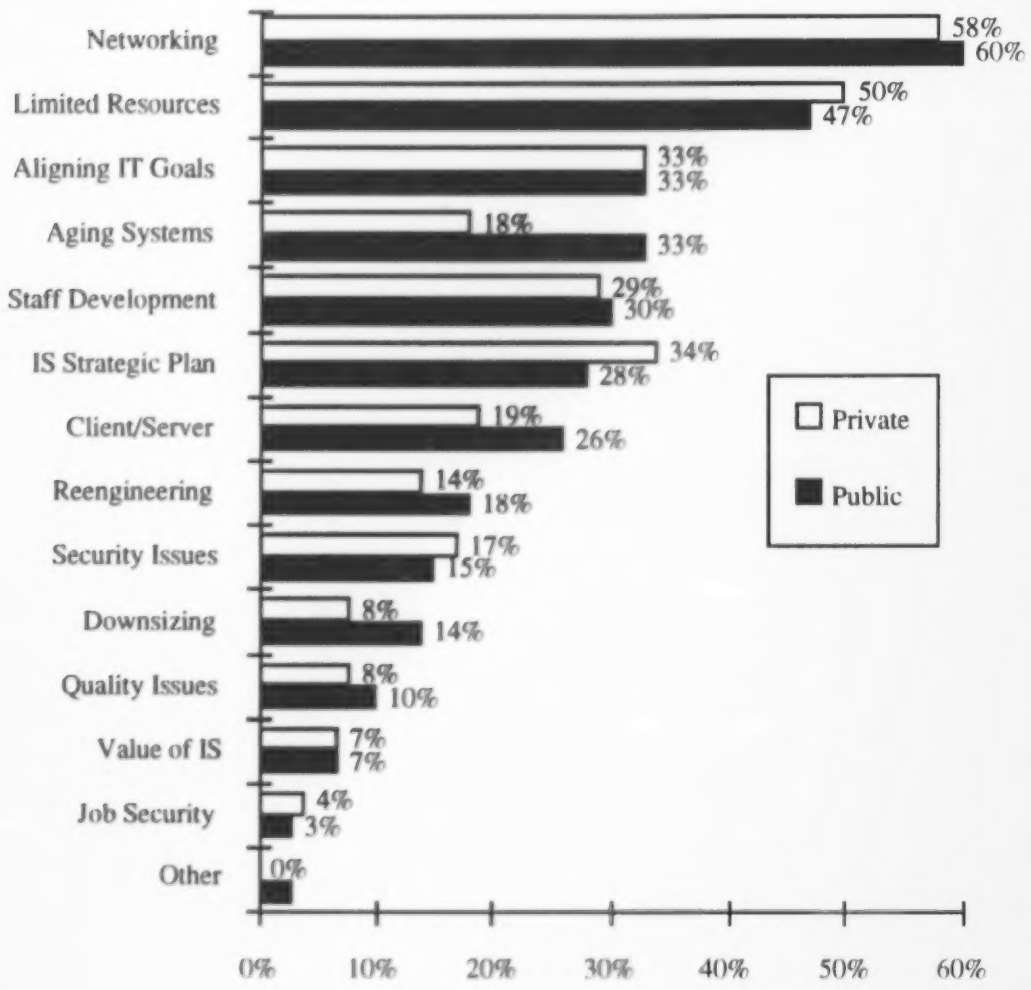
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



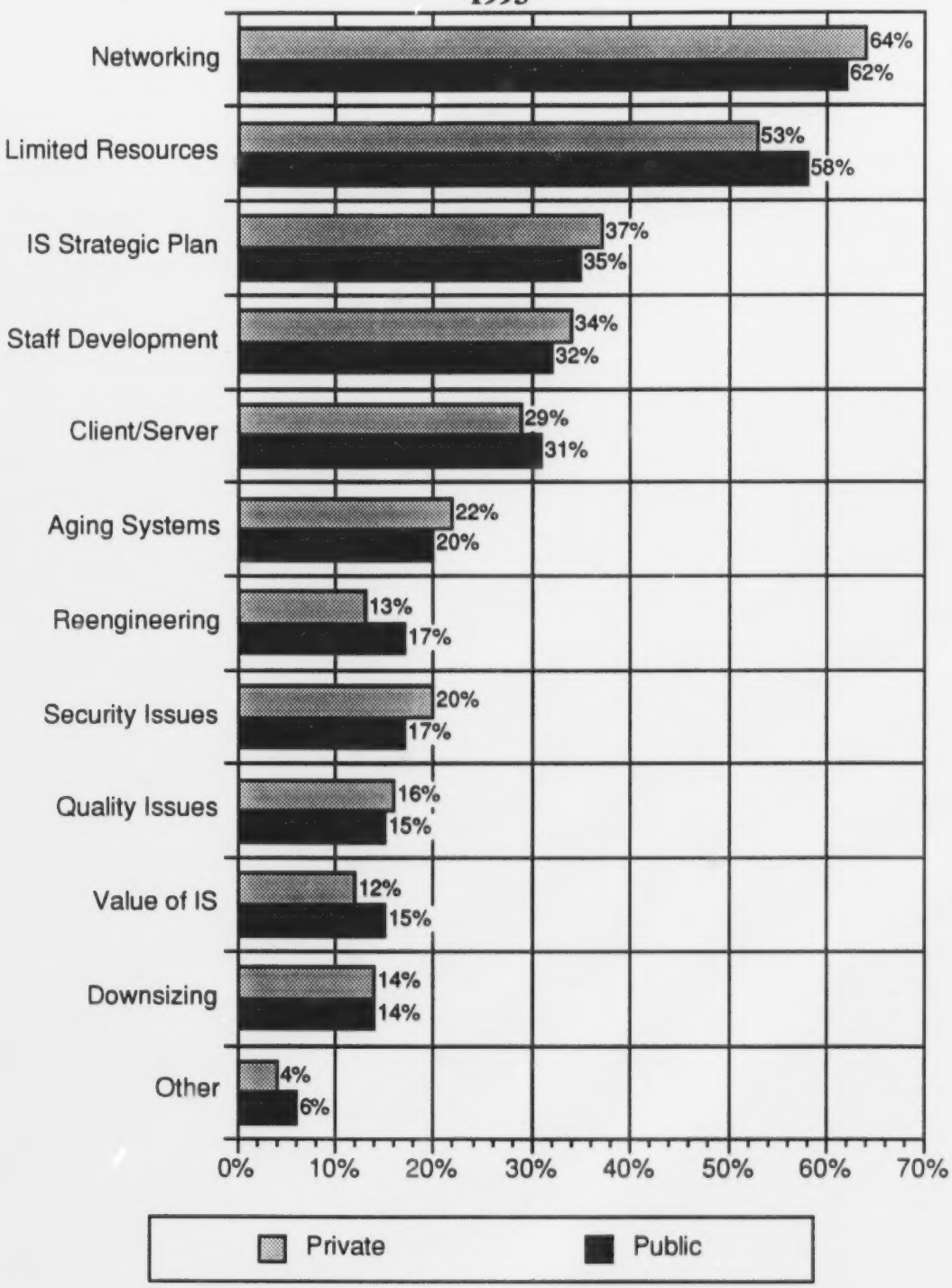
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
by Carnegie Classification
1993



Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



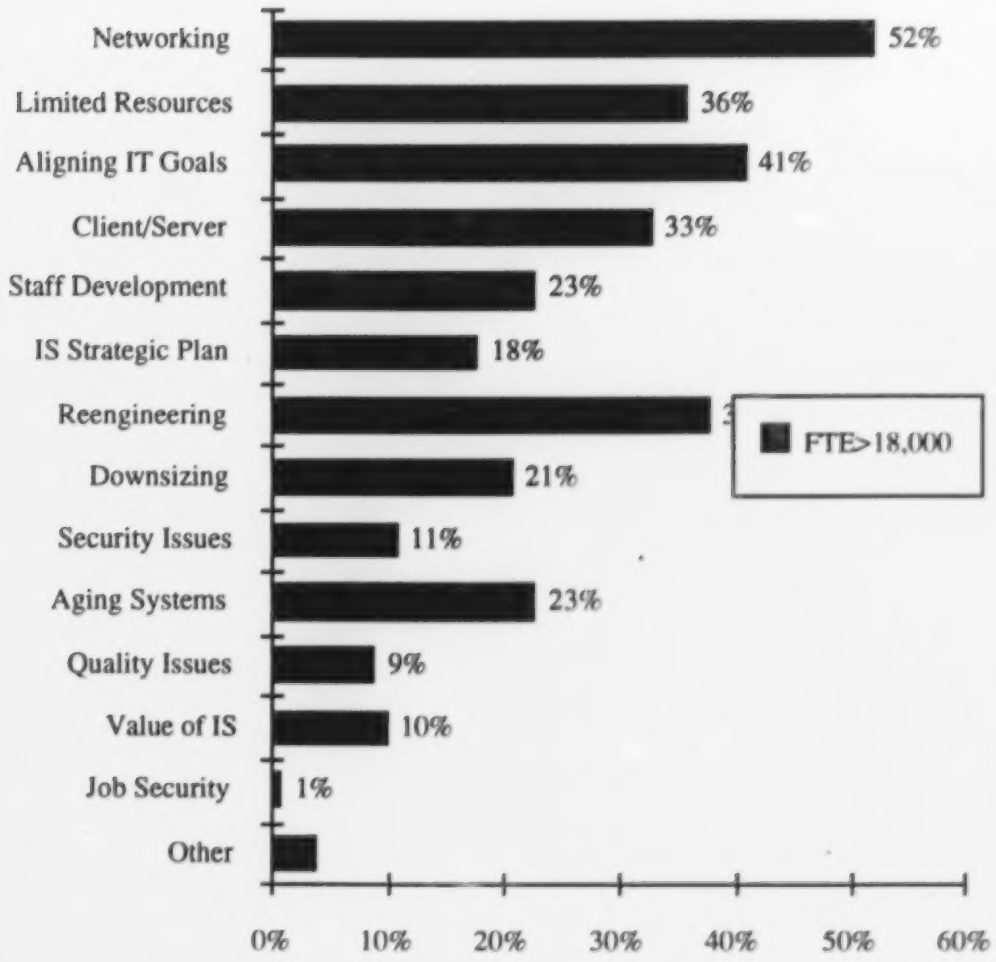
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) by Control 1993



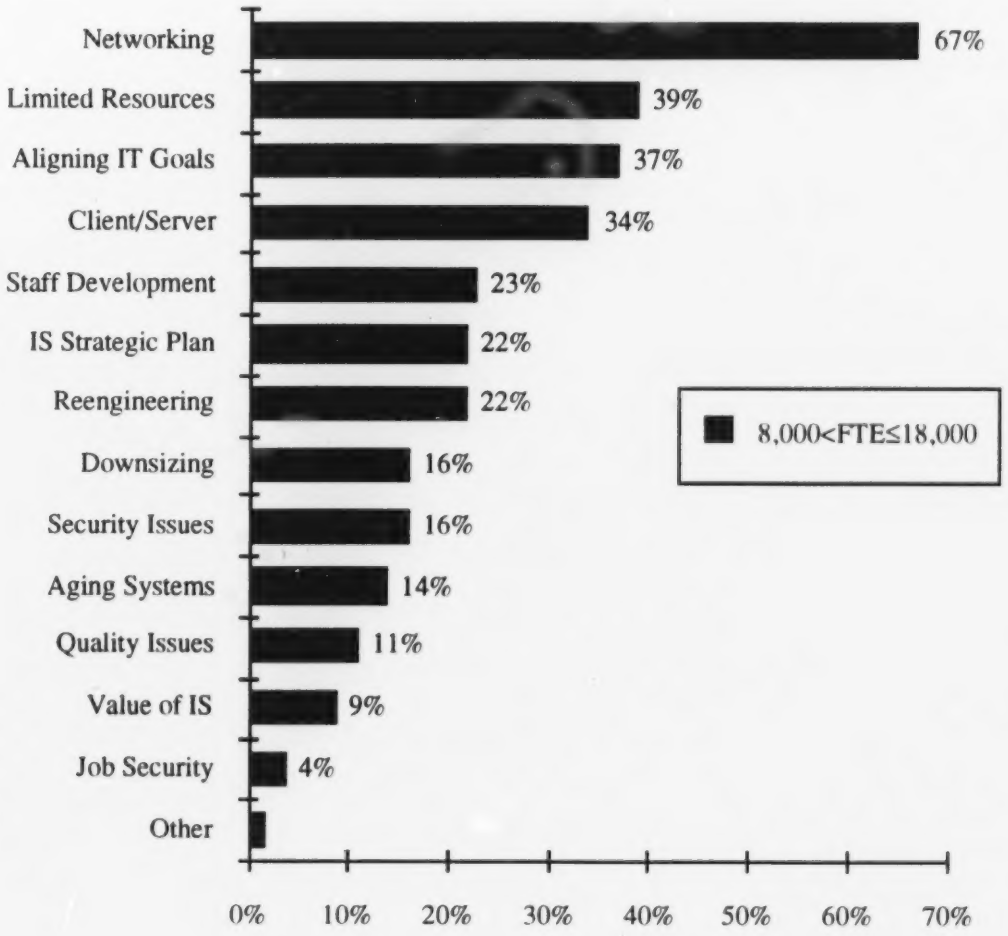
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994

	FTE>18,000	8,000<FTE≤18,000	2,000<FTE≤8,000	FTE≤2,000
Other	4%	2%	3%	1%
Job Security	1%	4%	4%	3%
Value of IS	10%	9%	8%	6%
Quality Issues	9%	11%	9%	8%
Aging Systems	23%	14%	17%	20%
Security Issues	11%	16%	19%	13%
Downsizing	21%	16%	8%	9%
Reengineering	38%	22%	12%	10%
IS Strategic Plan	18%	22%	33%	32%
Staff Development	23%	23%	33%	35%
Client/Server	33%	34%	19%	22%
Aligning IT Goals	41%	37%	30%	31%
Limited Resources	36%	39%	51%	55%
Networking	52%	67%	59%	60%

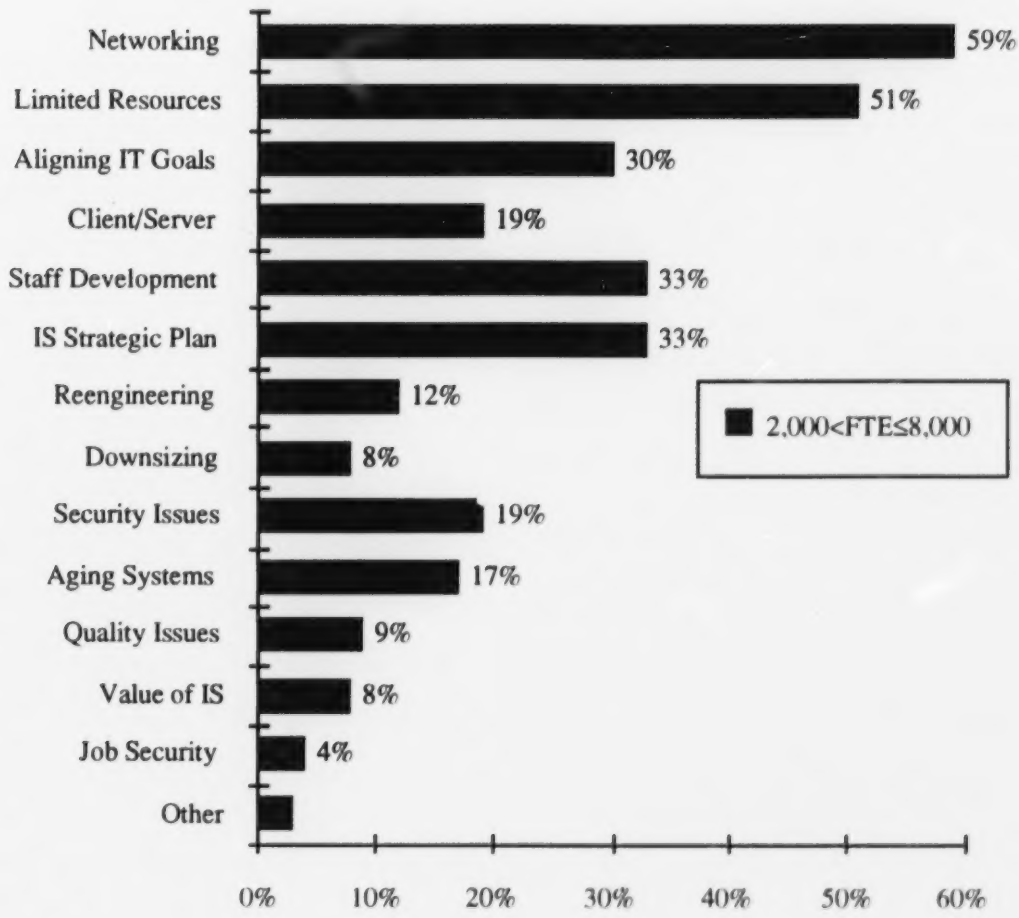
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



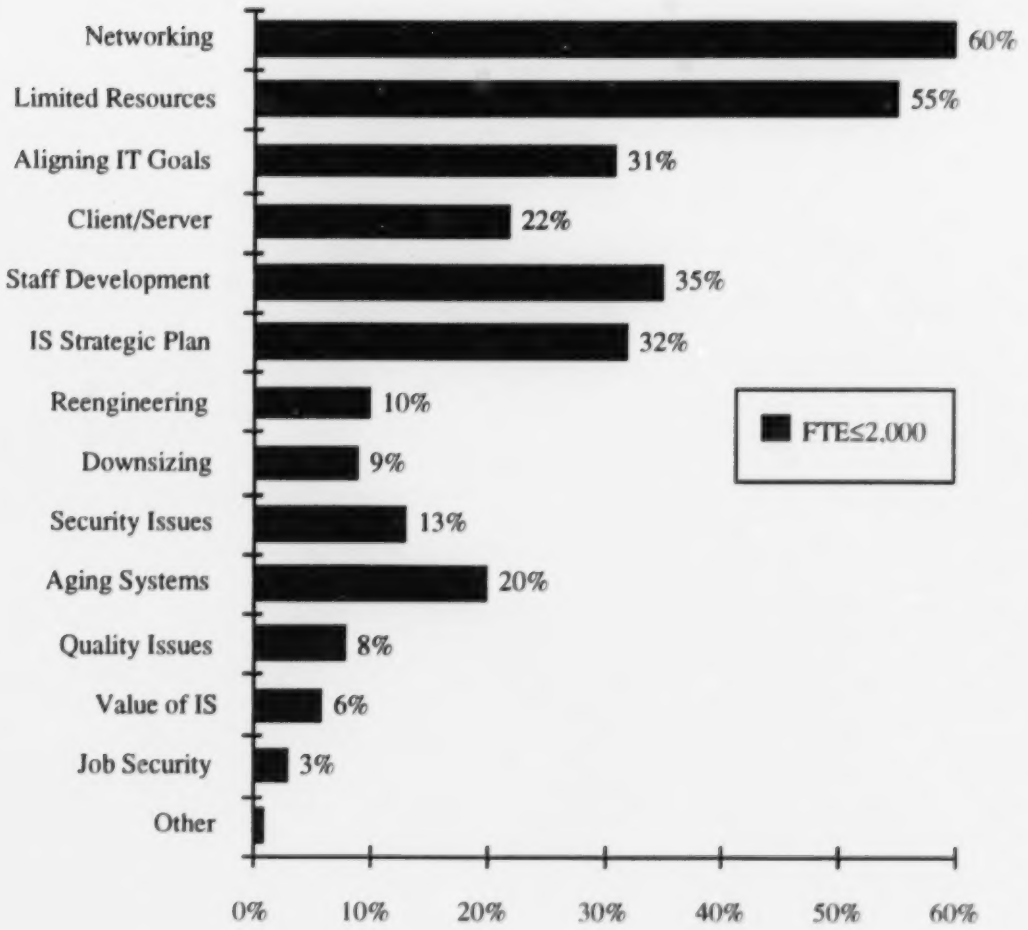
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



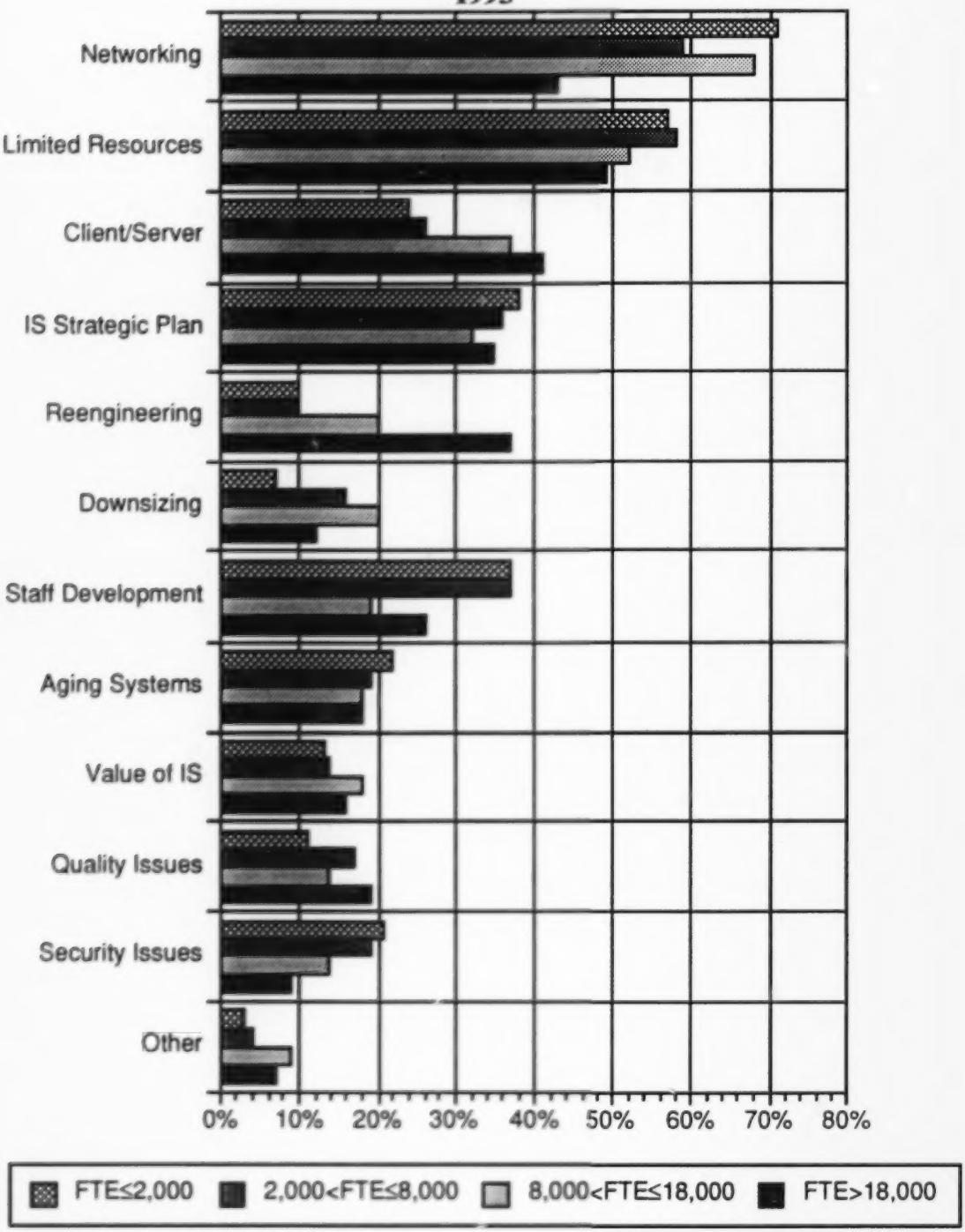
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



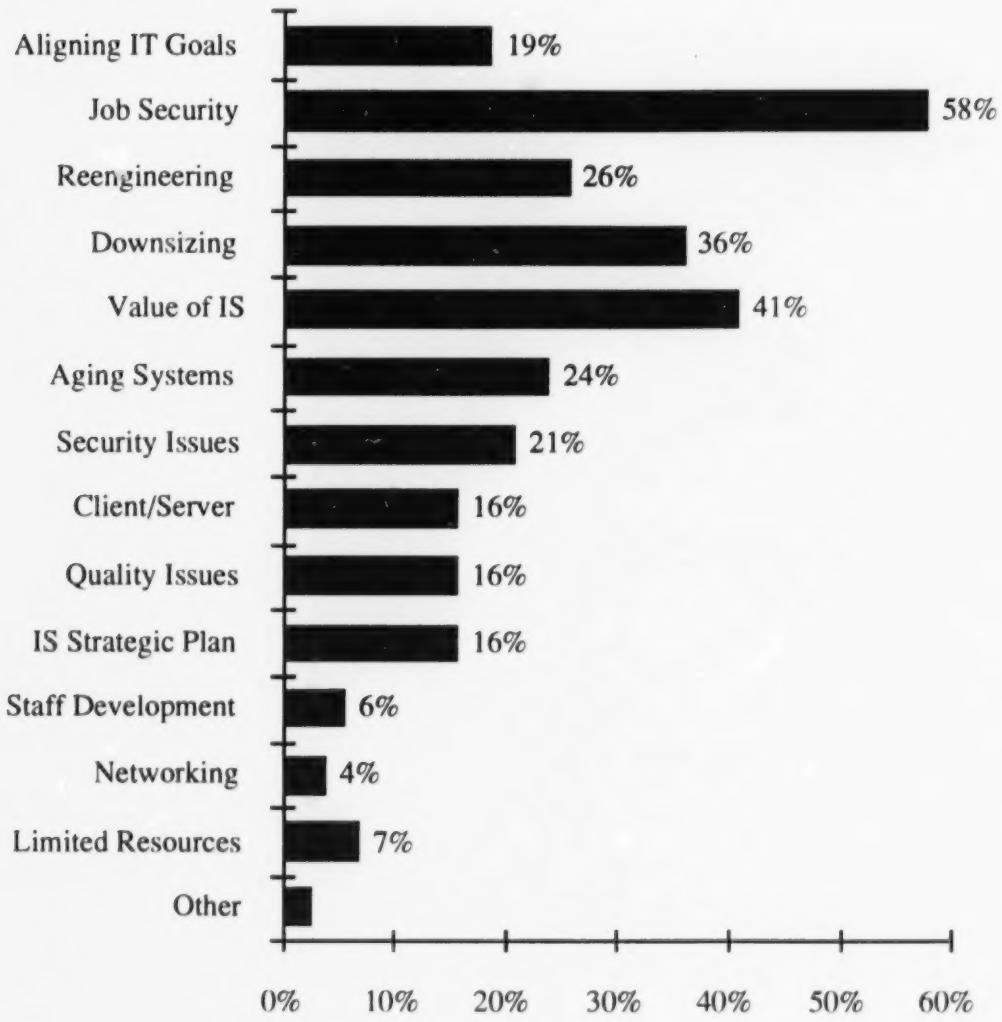
Percent of Institutions Who Ranked All Issues ≤3 (Top Three)
1994



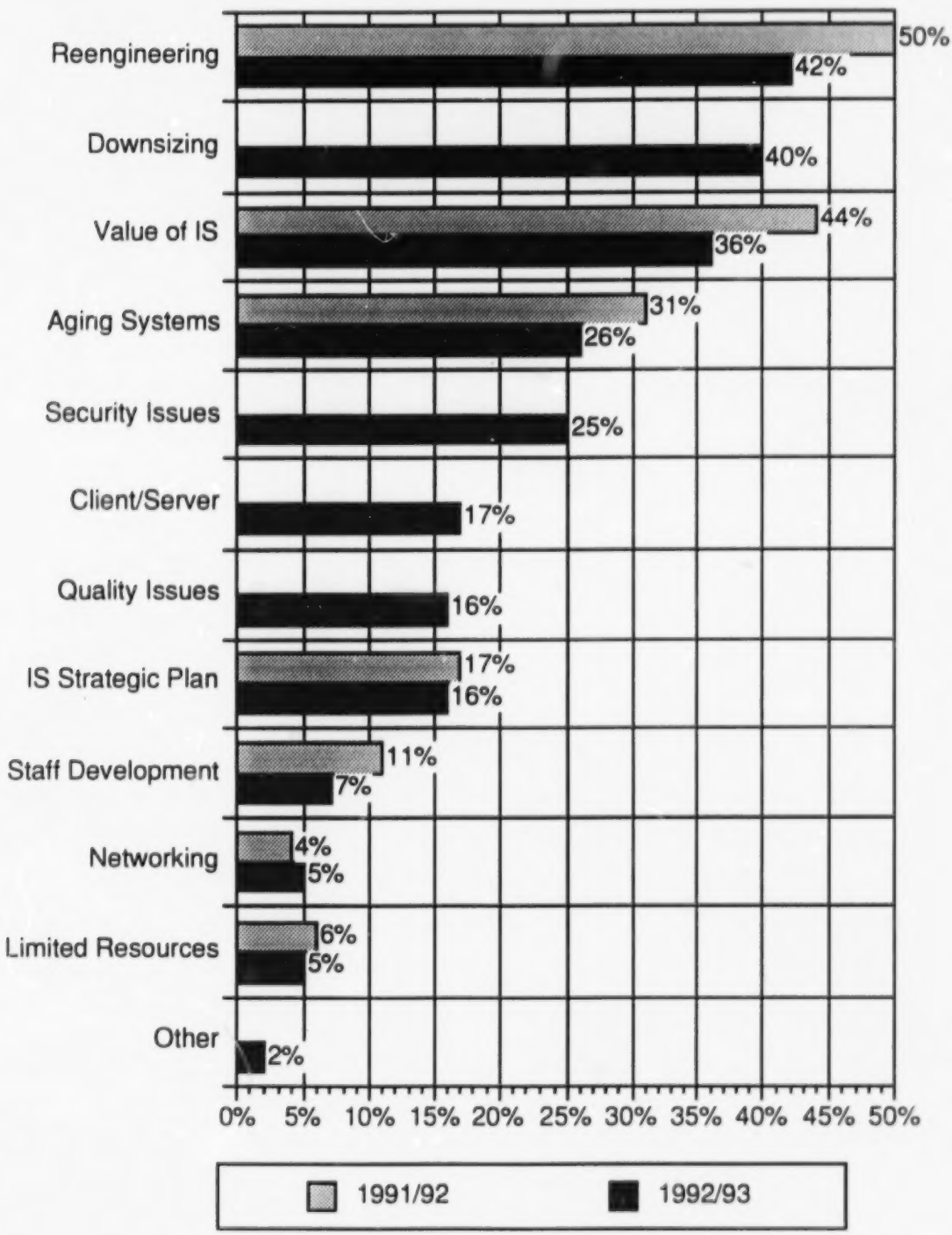
Percent of Institutions Who Ranked All Issues ≤3 (Top Three) by Institutional Size (FTE) 1993



Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994



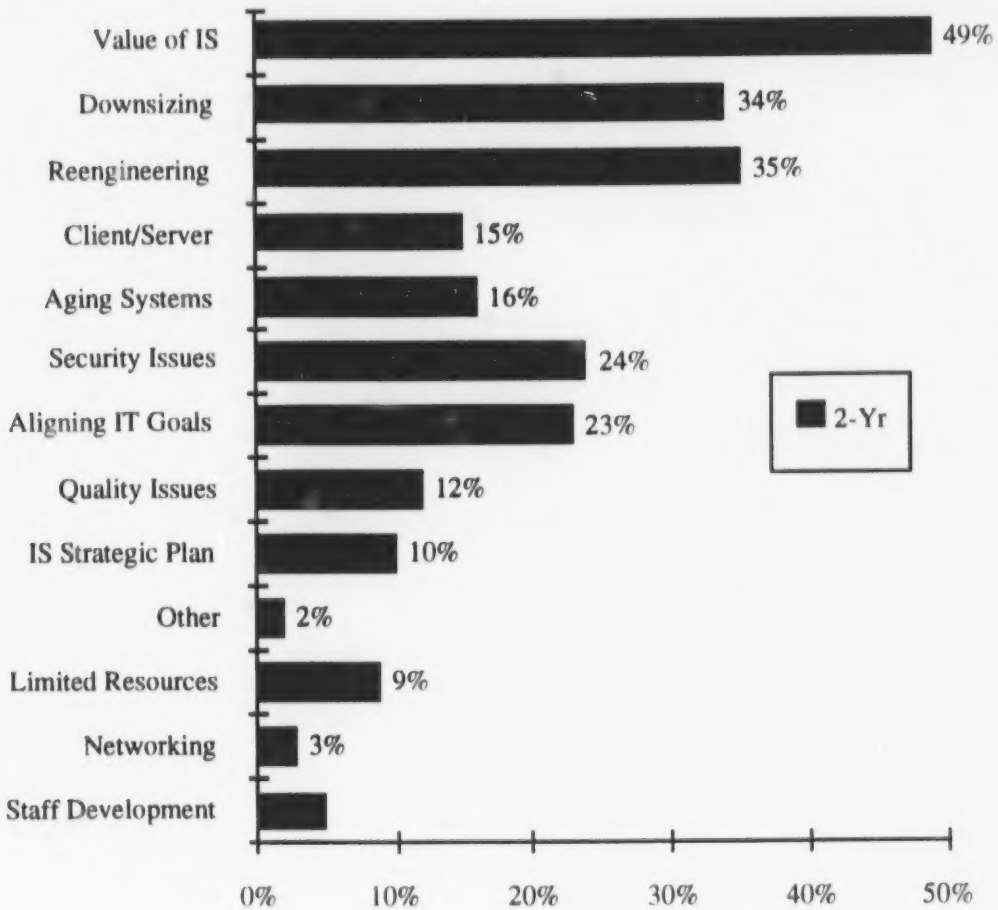
Percent of Institutions Who Ranked All Issues ≥8 (Bottom Four)
1991/1992 and1992/1993



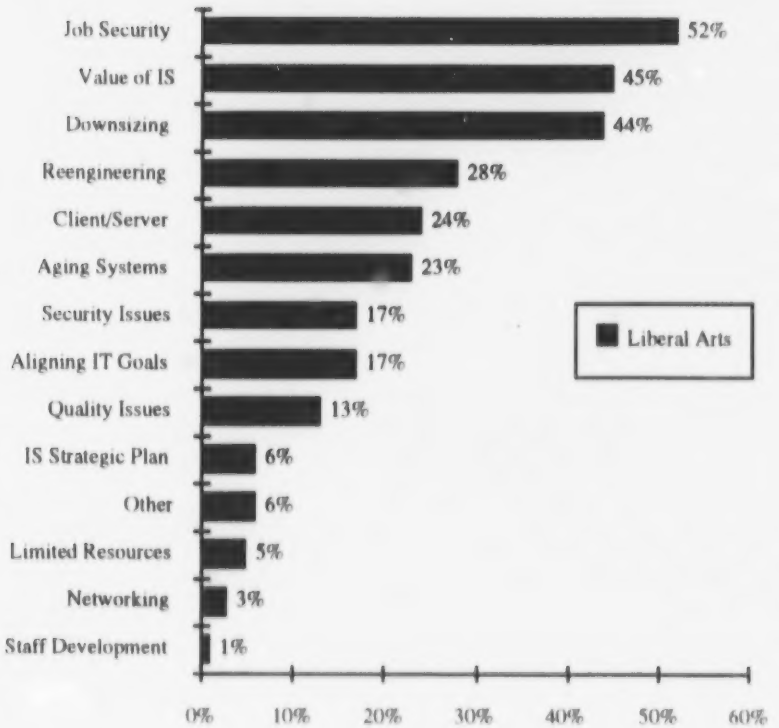
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four) 1994

	2-Yr	Liberal Arts	Comprehensive	Doctoral	Research
Staff Development	5%	1%	4%	6%	9%
Networking	3%	3%	4%	2%	8%
Limited Resources	9%	5%	6%	7%	11%
Other	2%	6%	6%	5%	2%
IS Strategic Plan	10%	6%	18%	13%	34%
Quality Issues	12%	13%	18%	18%	25%
Aligning IT Goals	23%	17%	18%	19%	19%
Security Issues	24%	17%	17%	20%	24%
Aging Systems	16%	23%	27%	26%	24%
Client/Server	15%	24%	16%	15%	14%
Reengineering	35%	28%	35%	34%	17%
Downsizing	34%	44%	37%	37%	24%
Value of IS	49%	45%	37%	41%	48%
Job Security	56%	52%	59%	67%	73%

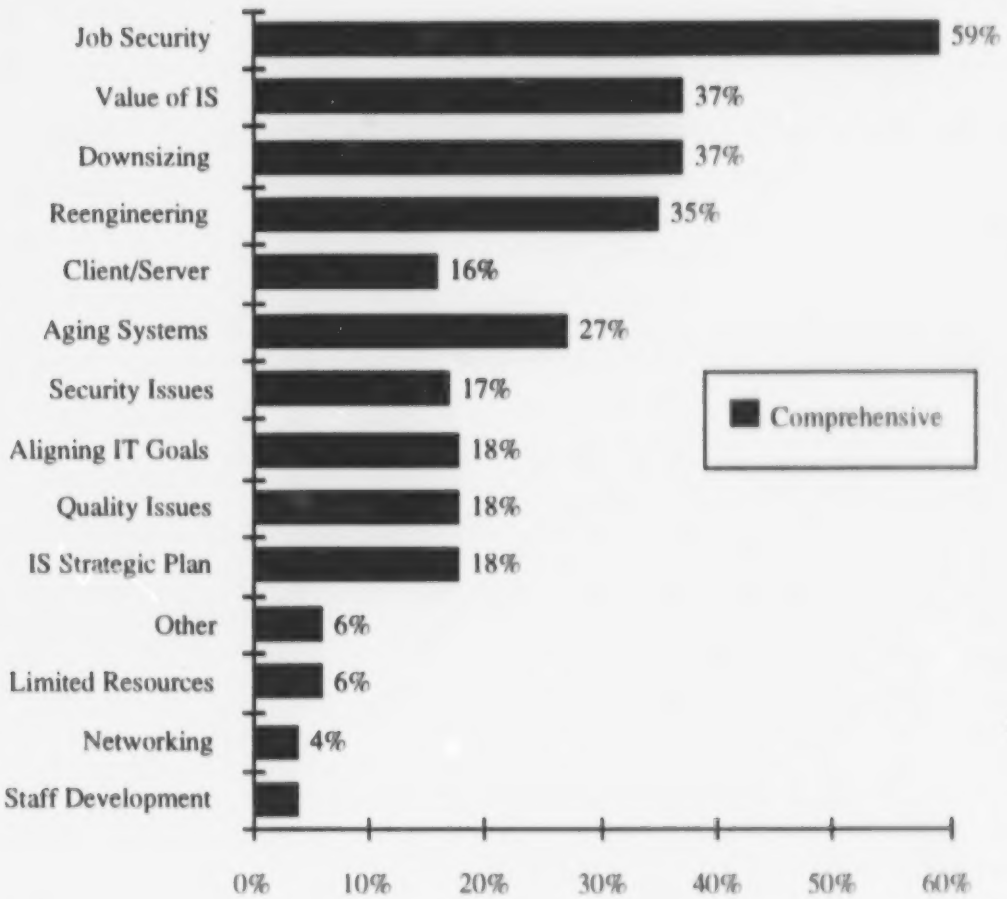
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994



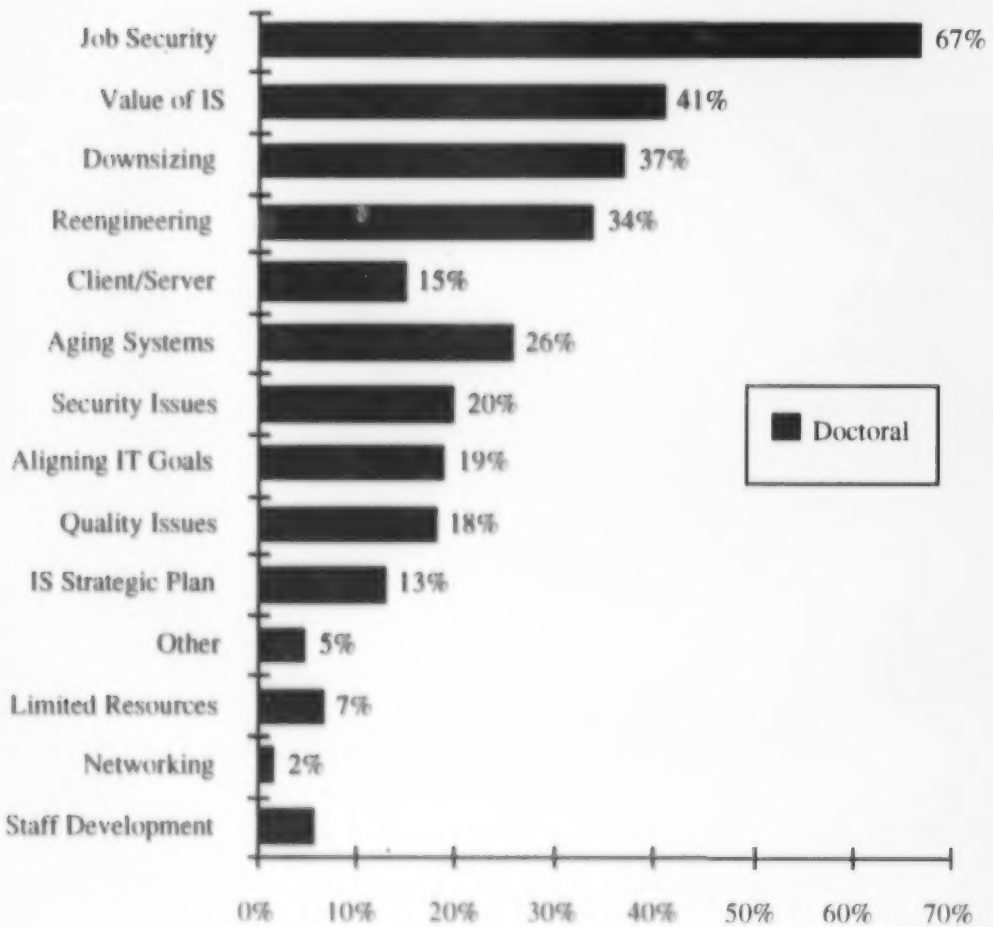
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four) 1994



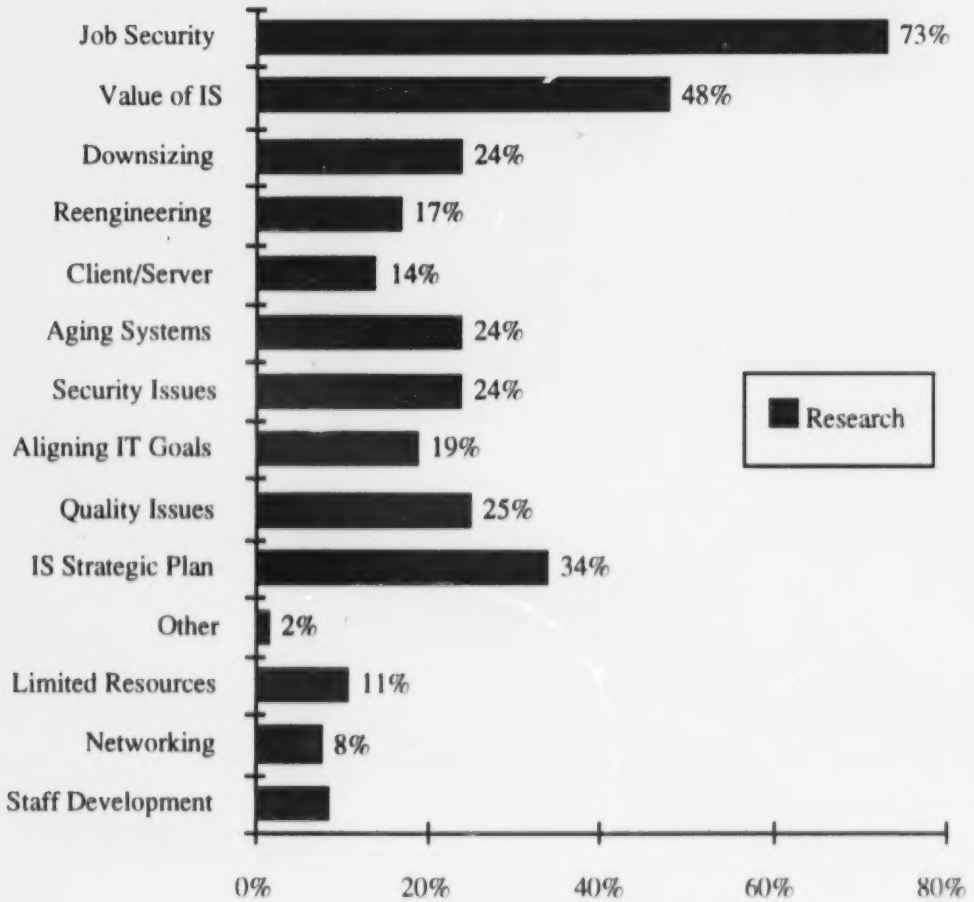
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994



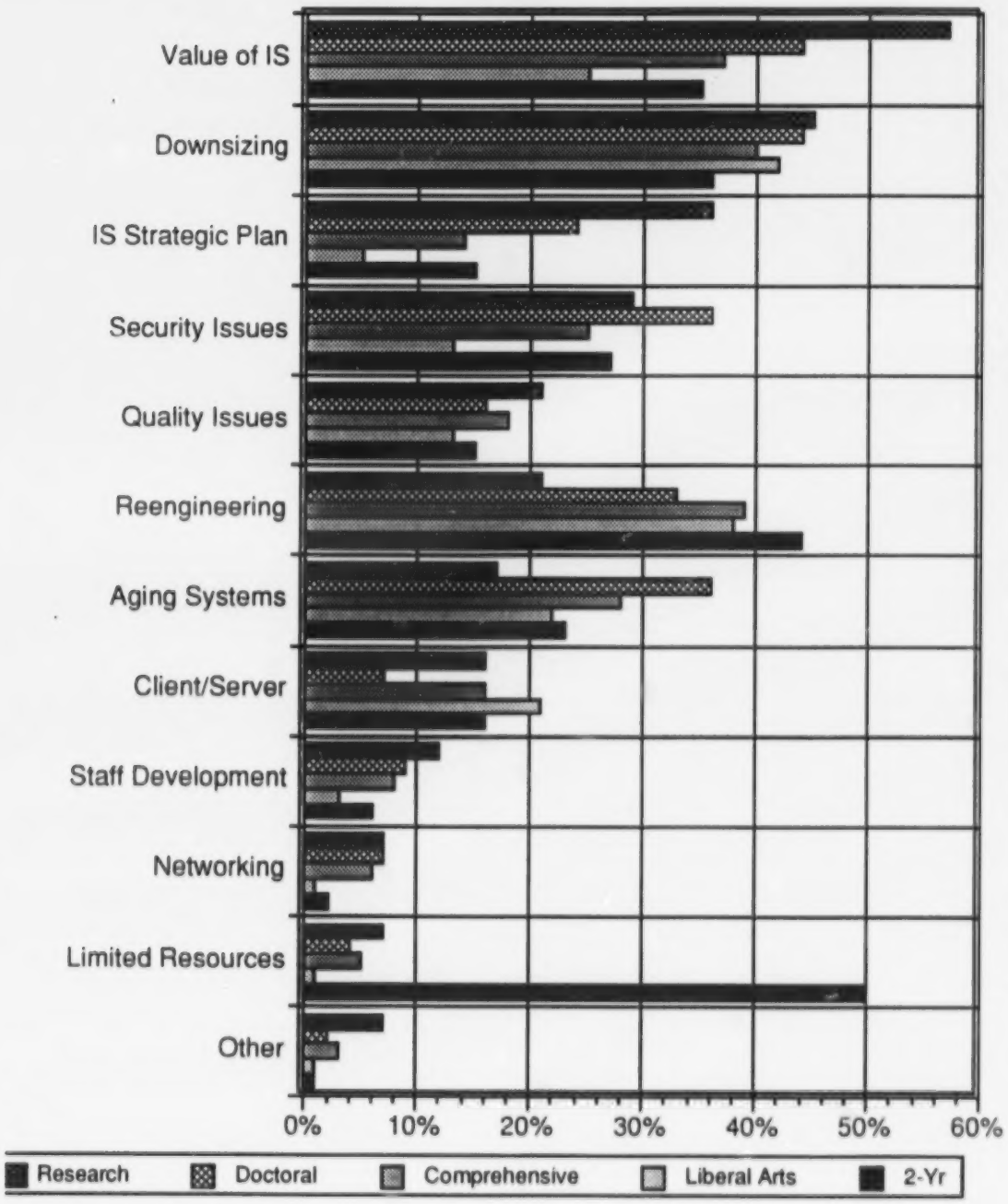
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994



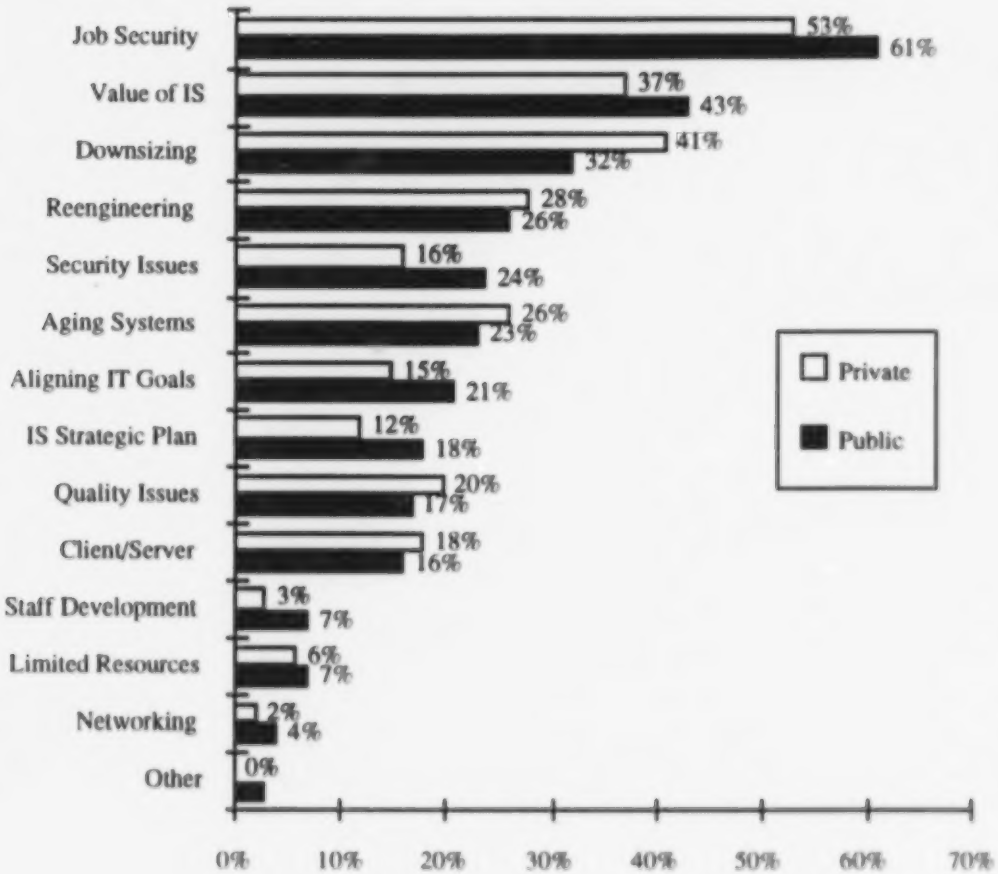
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994

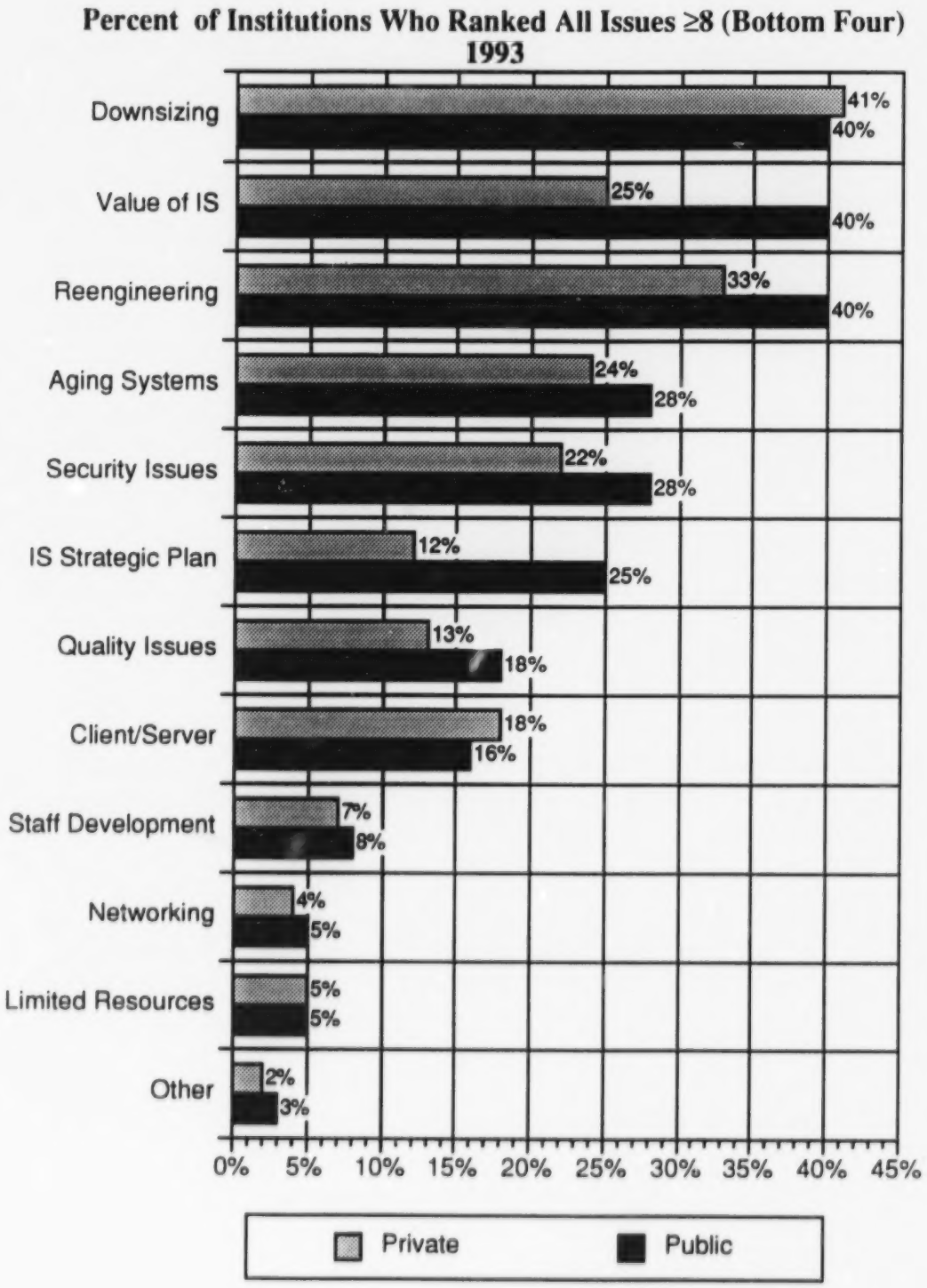


Percent of Institutions Who Ranked All Issues ≥8 (Bottom Four)
By Carnegie Classification
1993



Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994

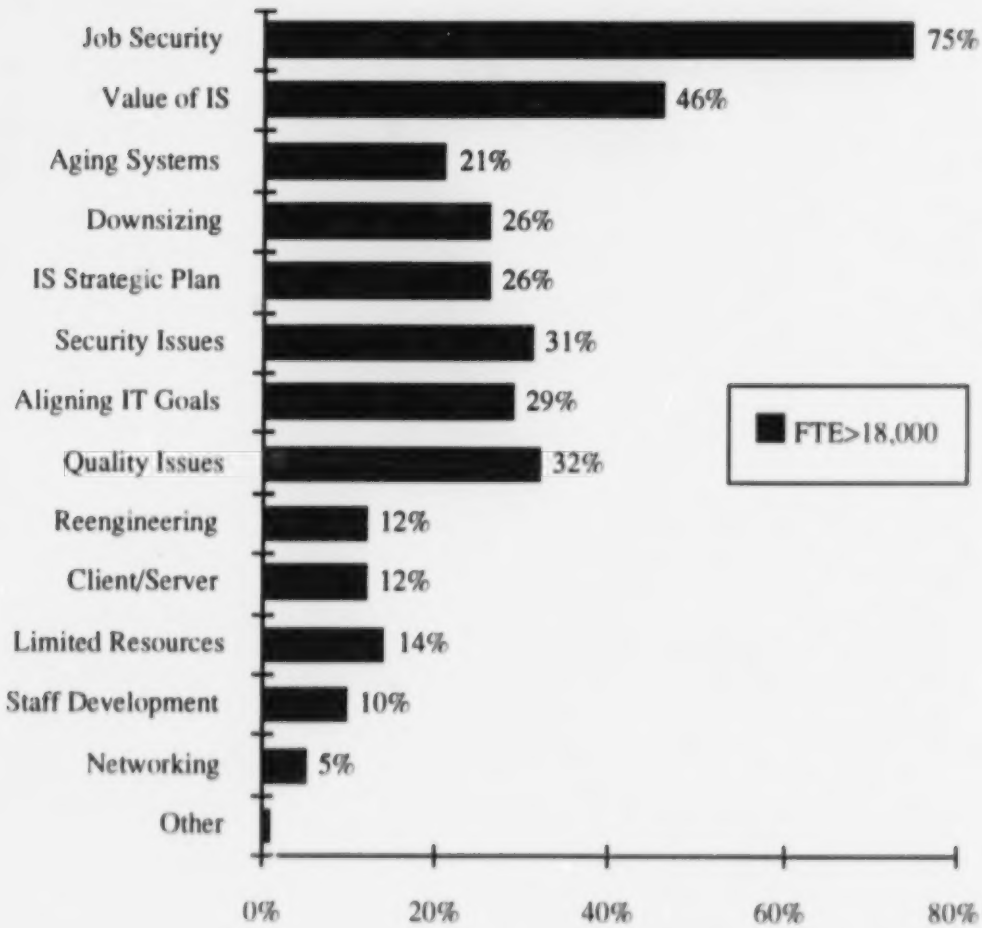



Percent of Institutions Who Ranked All Issues ≥8 (Bottom Four)
1993
Downsizing
41%
40%
Value of IS
25%
40%
Reengineering
33%
40%
Aging Systems
24%
28%
Security Issues
22%
28%
IS Strategic Plan
12%
25%
Quality Issues
13%
18%
Client/Server
18%
16%
Staff Development
7%
8%
Networking
4%
5%
Limited Resources
5%
5%
Other
2%
3%
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
Private
Public

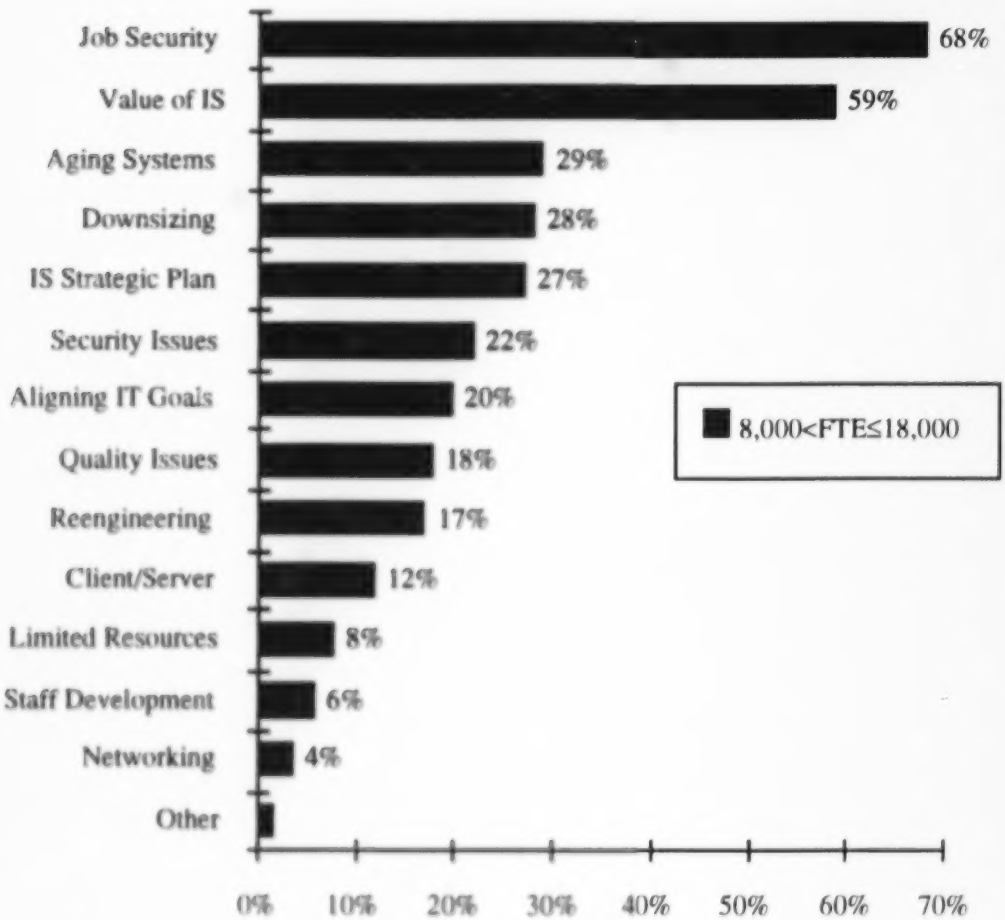
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994

	FTE>18,000	8,000<FTE≤18,000	2,000<FTE≤8,000	FTE≤2,000
Other	1%	2%	5%	3%
Networking	5%	4%	2%	6%
Staff Development	10%	6%	6%	2%
Limited Resources	14%	8%	7%	3%
Client/Server	12%	12%	15%	24%
Reengineering	12%	17%	34%	31%
Quality Issues	32%	18%	18%	15%
Aligning IT Goals	29%	20%	19%	14%
Security Issues	31%	22%	20%	17%
IS Strategic Plan	26%	27%	13%	8%
Downsizing	26%	28%	37%	41%
Aging Systems	21%	29%	26%	18%
Value of IS	46%	59%	41%	35%
Job Security	75%	68%	67%	47%

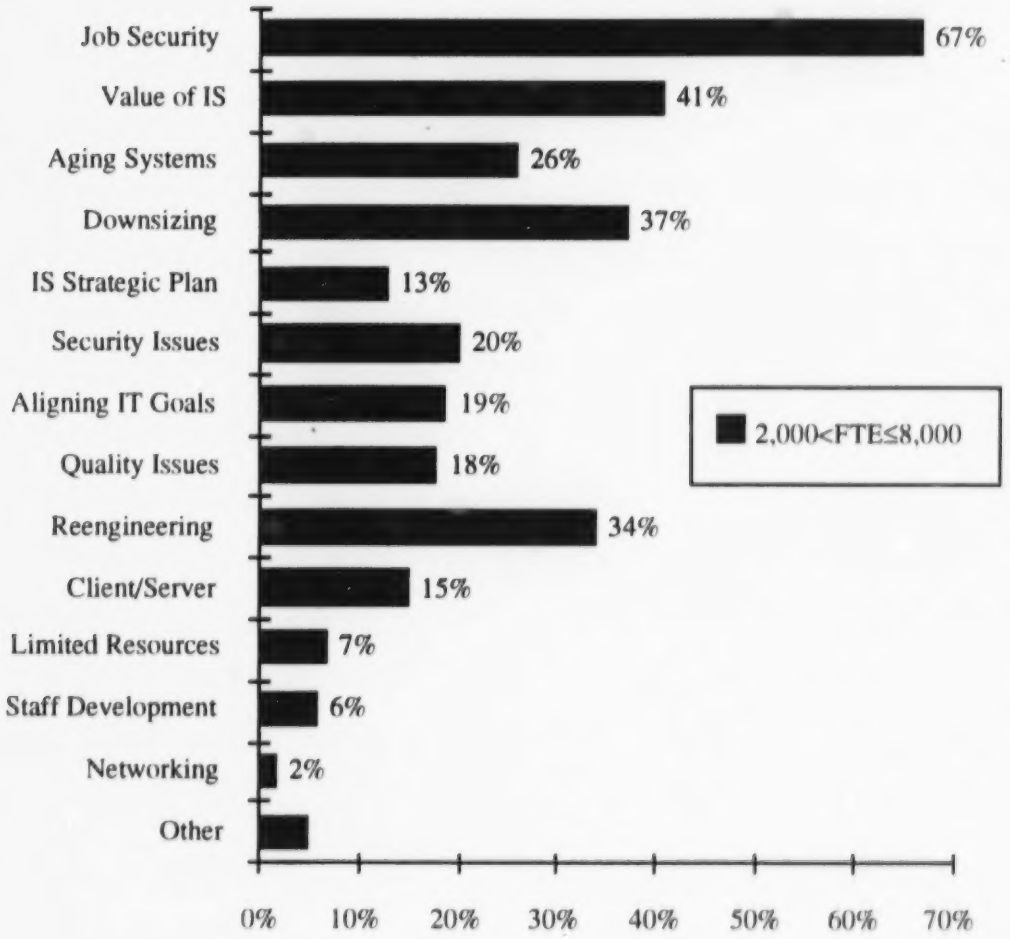
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994



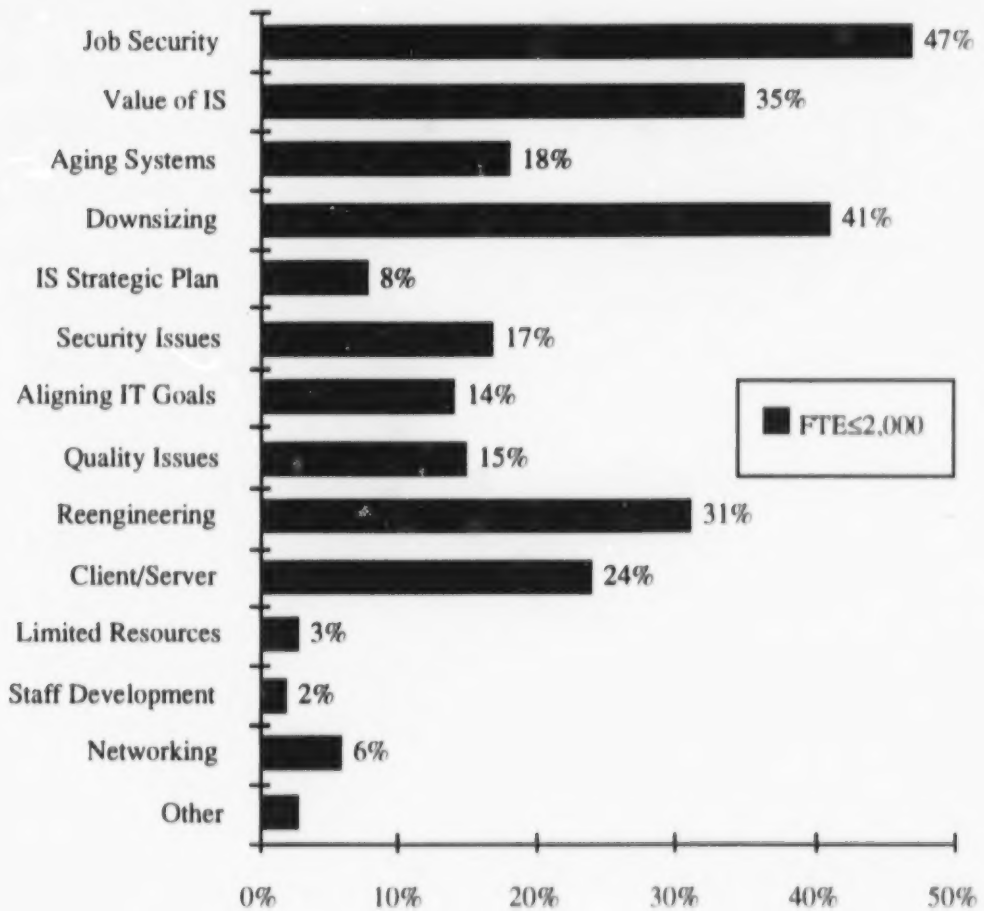
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994



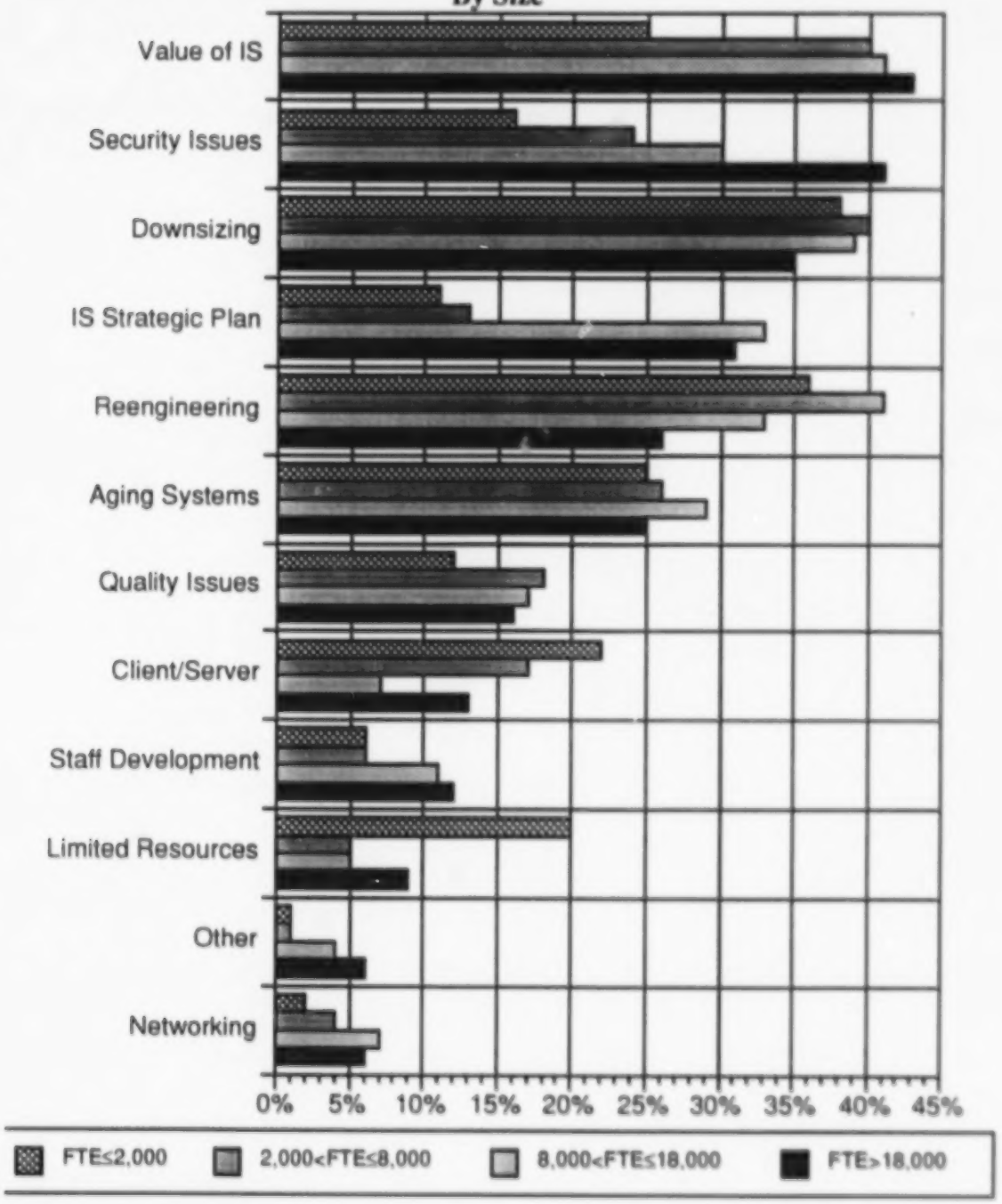
Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994



Percent of Institutions Who Ranked All Issues ≥10 (Bottom Four)
1994

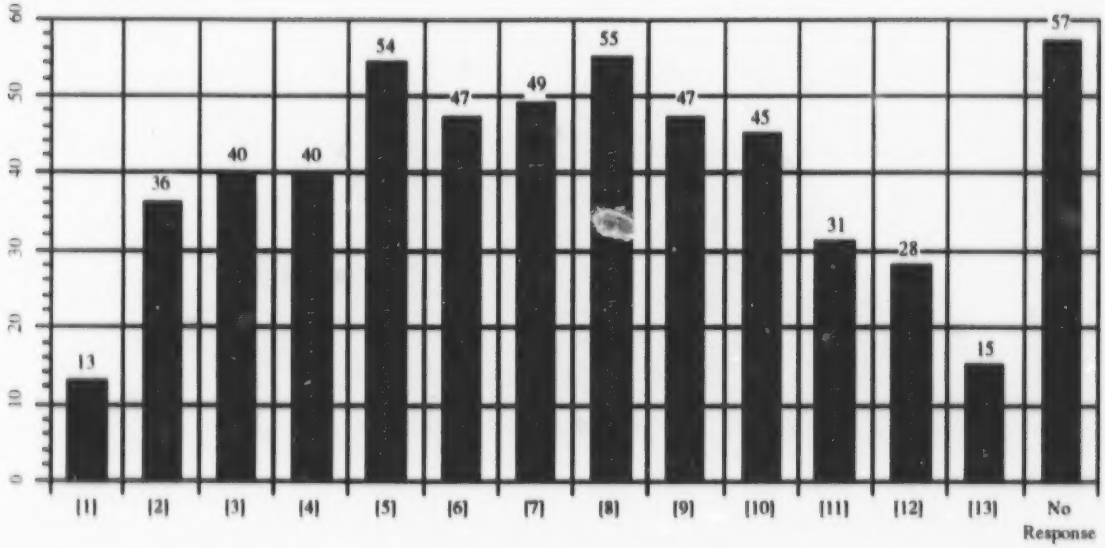


Percent of Institutions Who Ranked All Issues ≥8 (Bottom Four) By Size

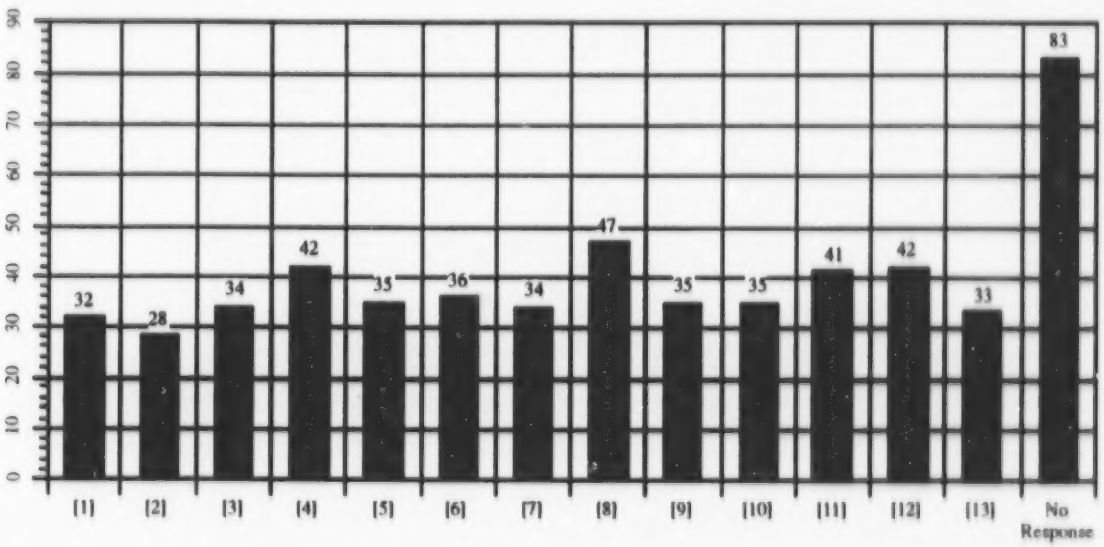


Frequency Distributions
For All Institutions

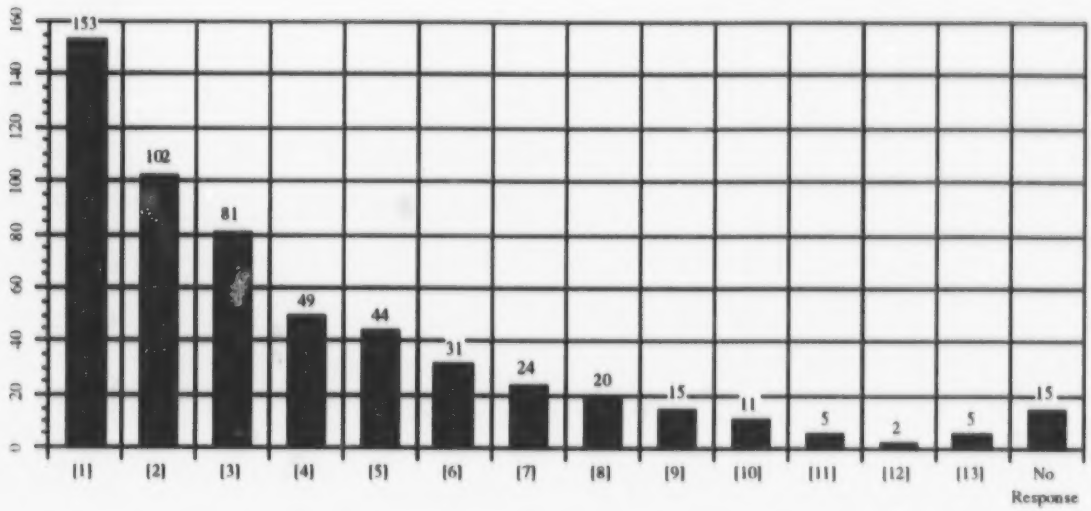
Security Issues



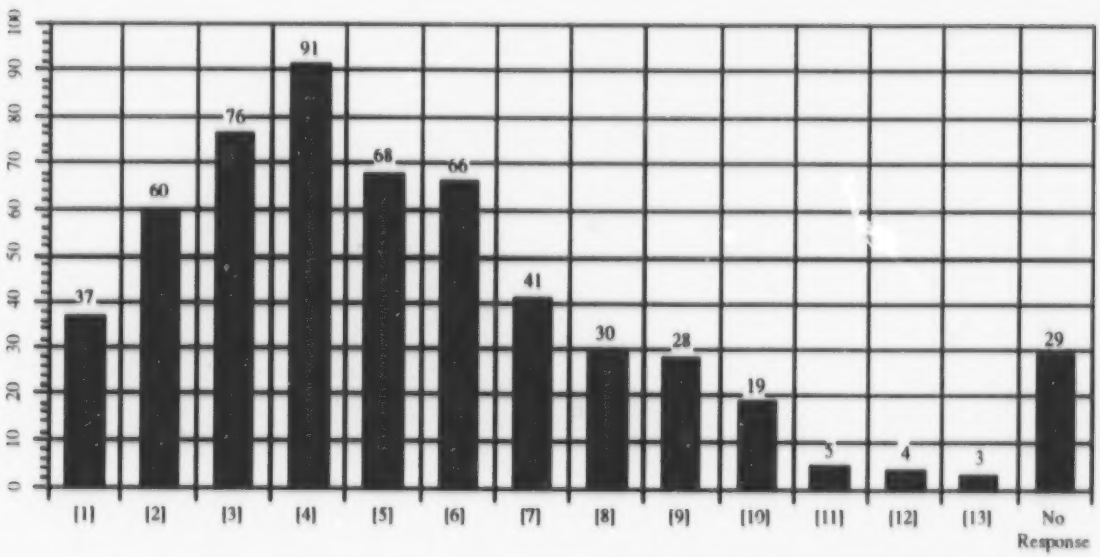
Reengineering



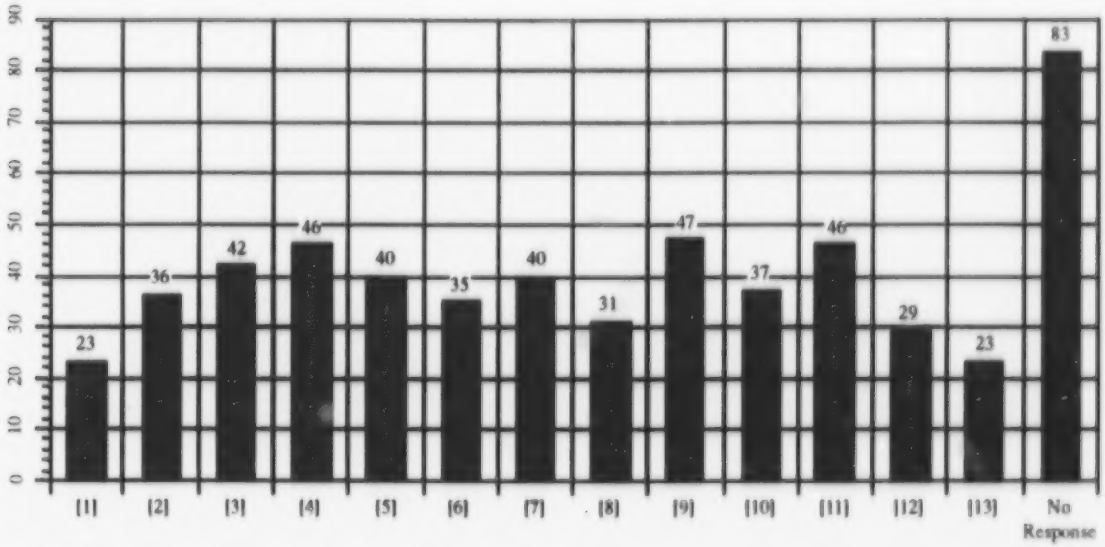
Networking



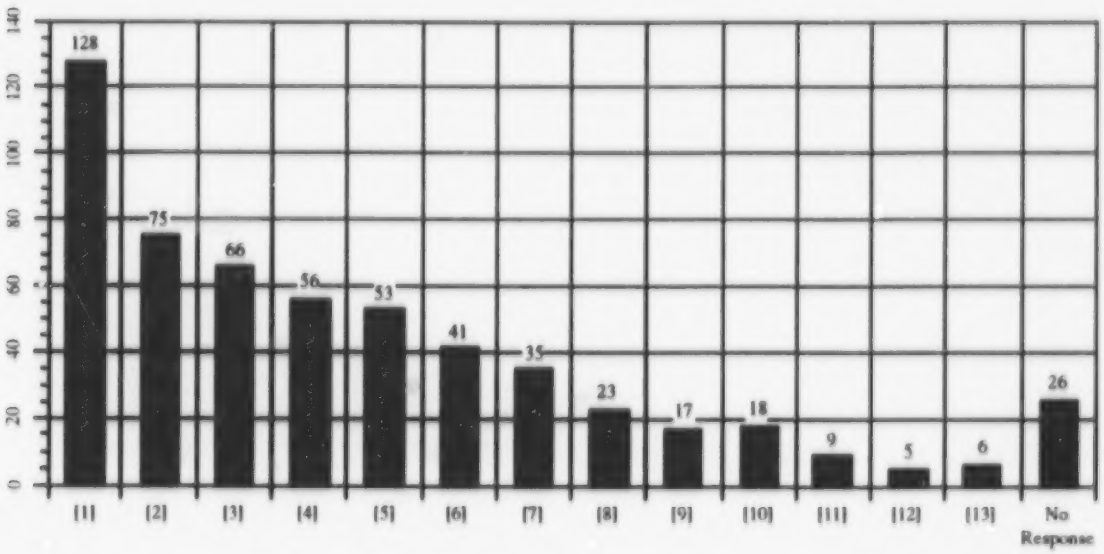
Training and Staff Development



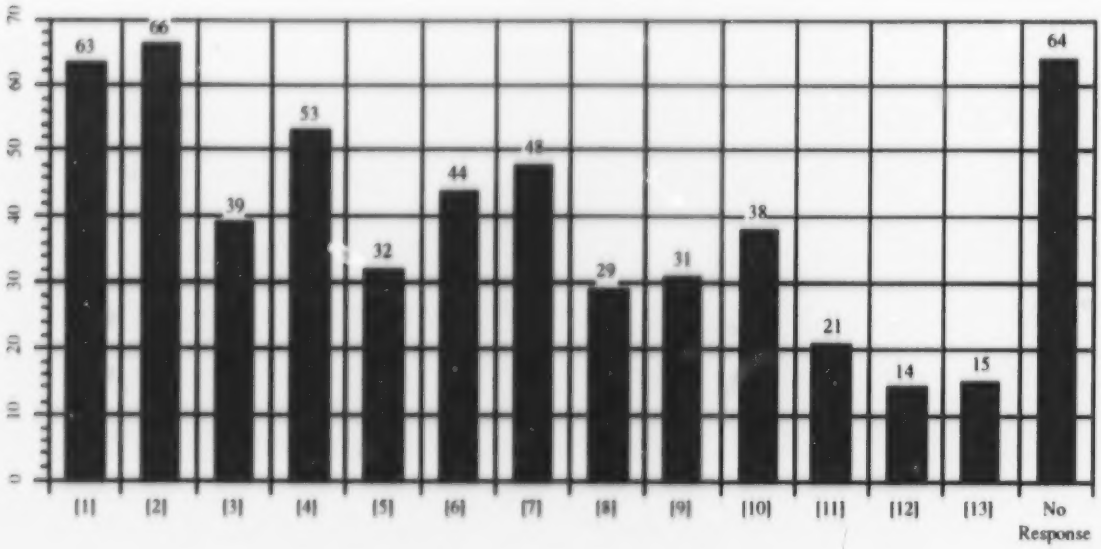
Aging Systems



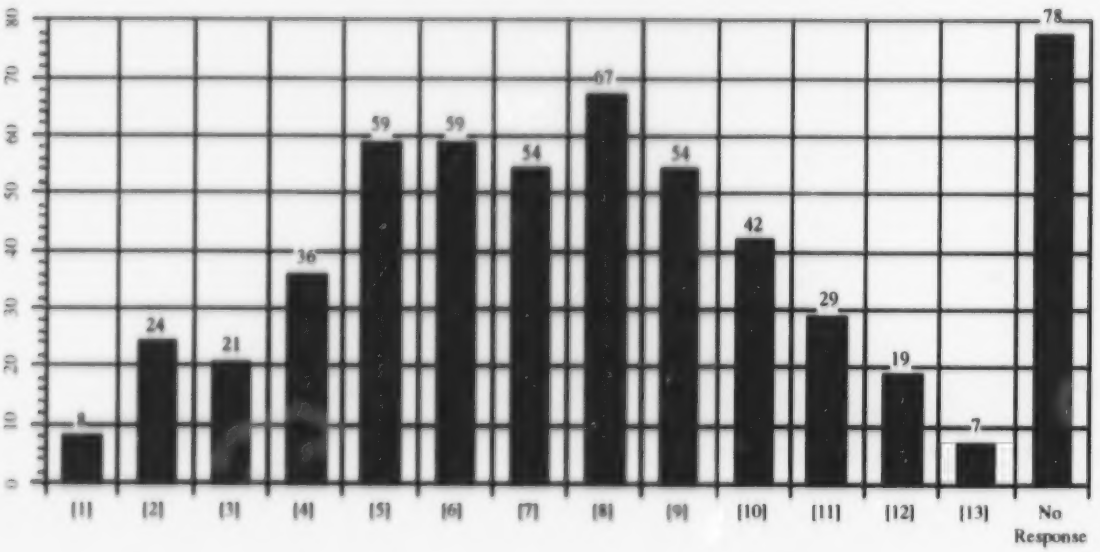
Effectively Coping With Limited Resources



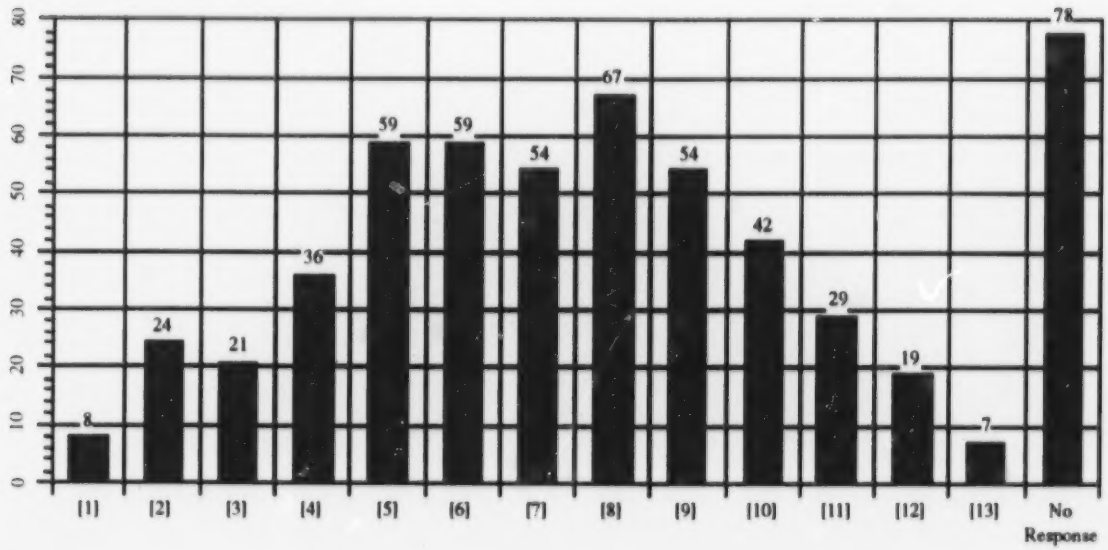
Developing an IS Strategic Plan



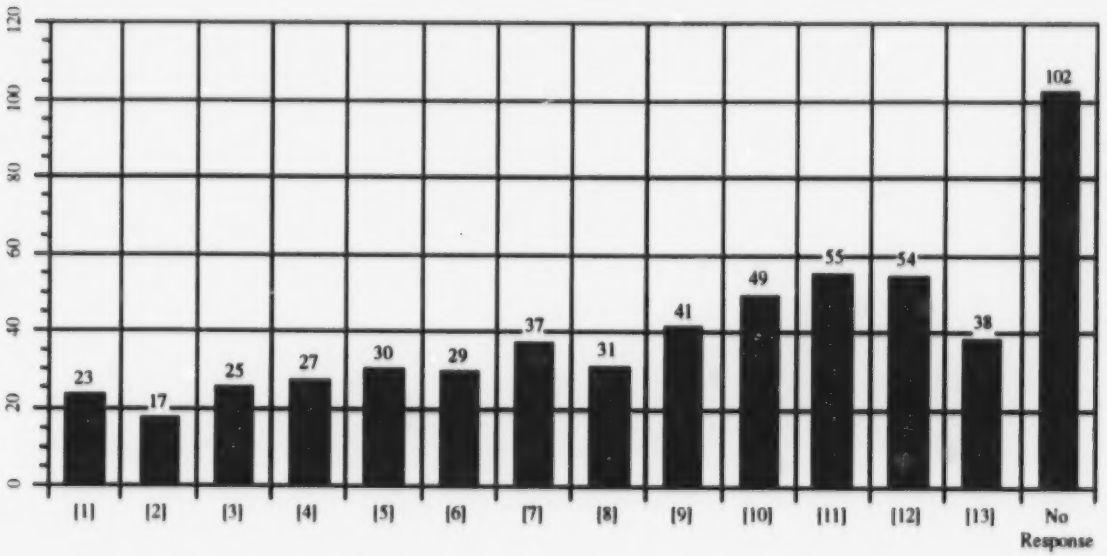
Quality Issues



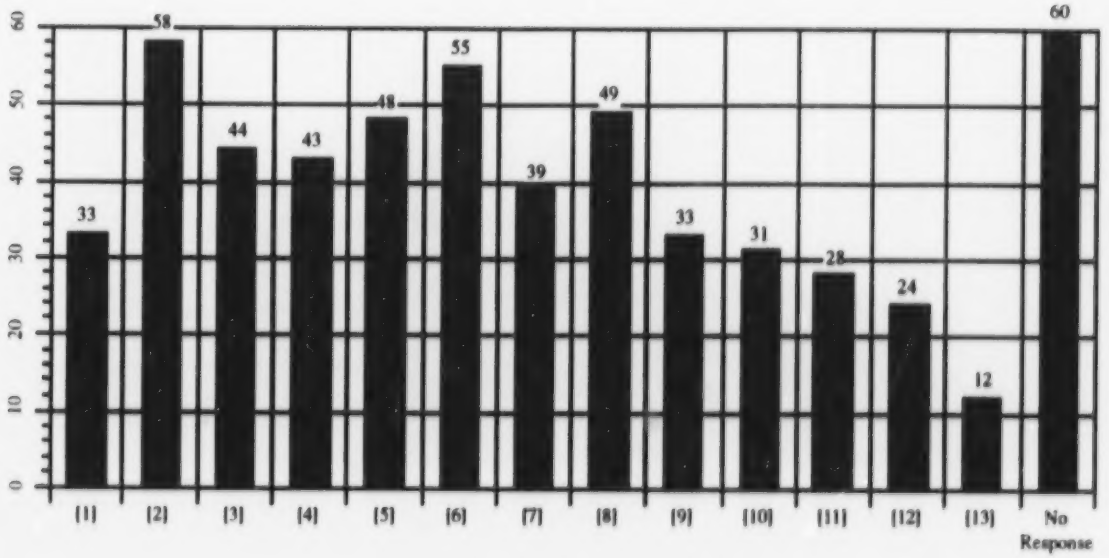
Justifying the Value of IS



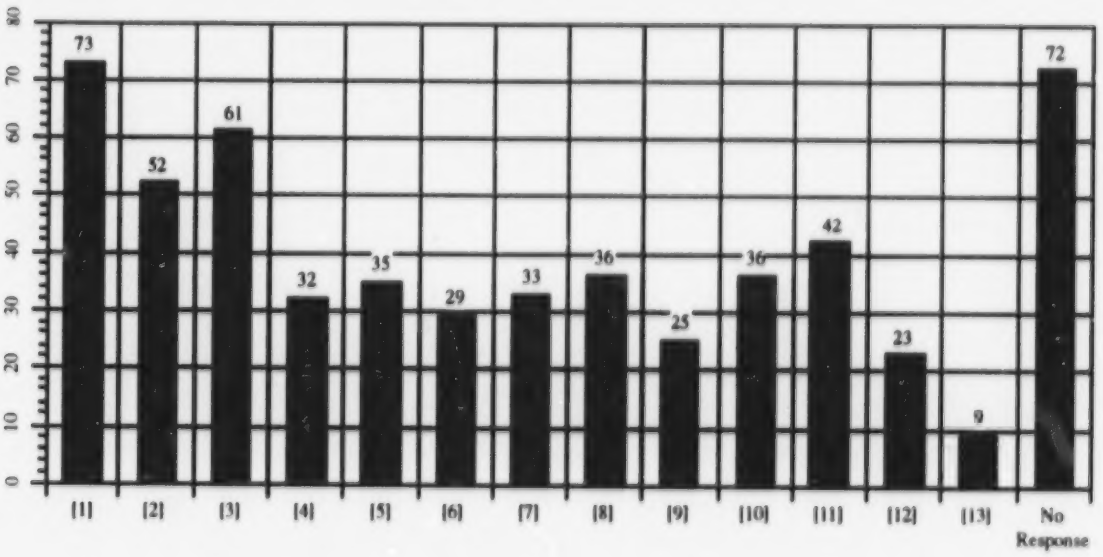
Downsizing



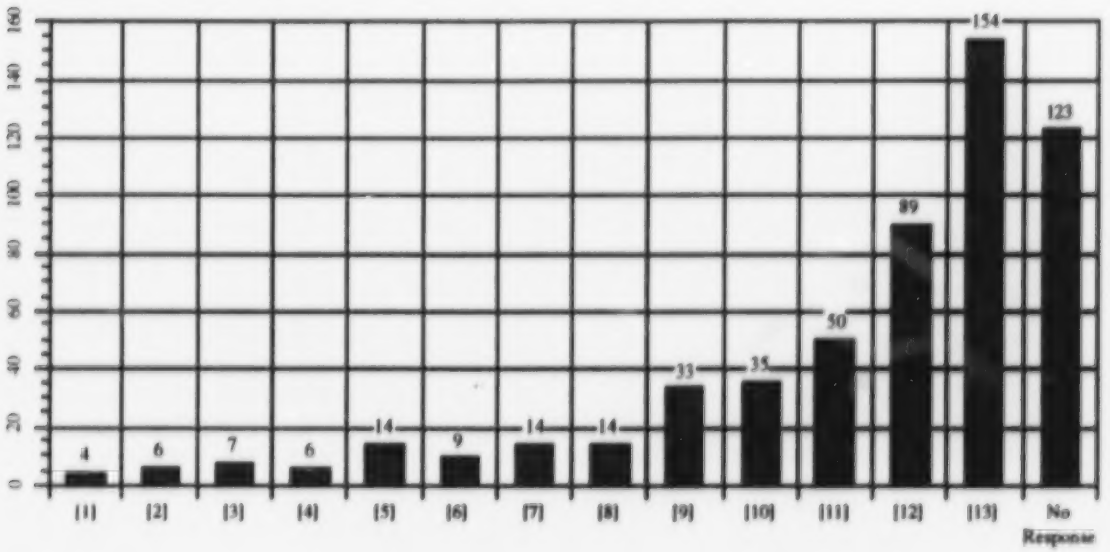
Client/Server



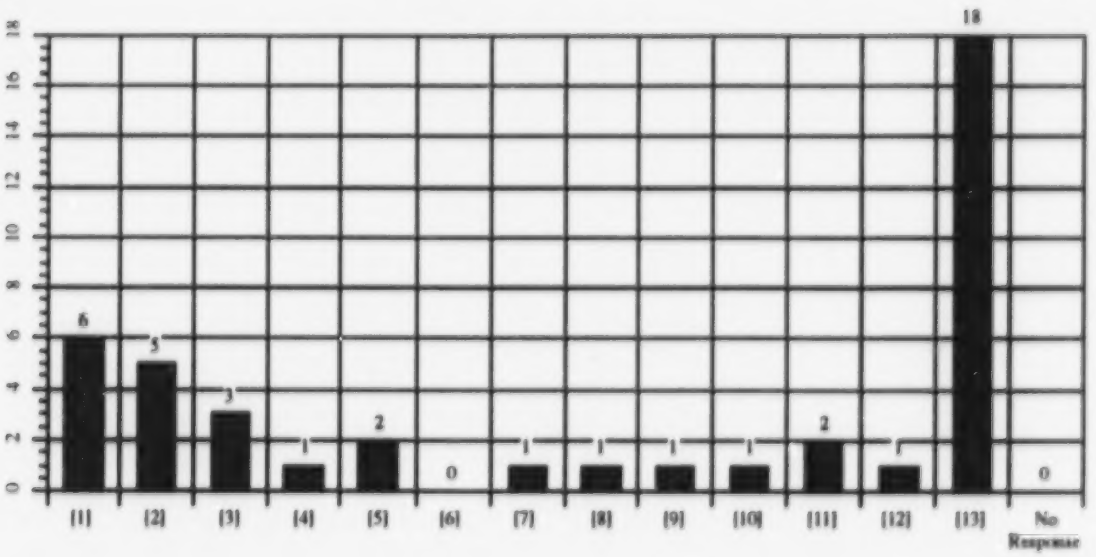
Aligning IT Goals With University Goals



Job Security/Loyalty



Other



Other Responses (Sorted Alphabetically)

Academic computing
Appropriate funding levels for IT
Assessing what to buy now in a rapidly changing market
Central vs Distributed
Changing IS focus from a technology orientation to a marketing orientation
Combining IT with the library fully
Cost-effective software licensing
Customer Services Issues
Dealing with change
Developing a campus-wide information system
Developing a leveraged support model
Developing systems internally, or "outsourcing"
Development Productivity
Development productivity
Disaster recovery
Distance Education Support
Distance education
Distance learning and multimedia technologies
Distance-learning technology
Documentation
Educational Technology
End user (student, faculty, admin, supporting staff) access to (relevant) centrally stored information
Enterprise-Wide Systems Management
Equipment depreciation and replacement
Funding
Funding adequate staff support
Getting faculty to incorporate technology into their instruction
How to partnership the IT staff and user developers
Institution wide data management
Integrated Telecommunications
Integration of Library/Technology services
Integrative Technology & Education
Internet
IT & Accreditation Process
Justifying the value of IT customer satisfaction
Keeping current with technology
Keeping system upgraded
Keeping up with technology changes and how to use them appropriately
Lack of vendor choices for strategic systems
Linking all technology for acad/adm missions
Maintaining team appreciation and focus
Multimedia
Multimedia development and classroom technology
Multimedia in academics
Multiplatform issues of networking, enterprise management
Network infrastructure

Other Responses (Sorted Alphabetically)

Network Management
New methods of serving clients
New technologies and what they imply about changes in our work
Paper reduction
Providing support for non mainstream products
Redefining Services
Replacement funding
Replacement/removal of experienced computer people with PC users in management and critical administrative roles
Strategic investment/funding of IT
Student development, community outreach
Systems integration
Technology and Education e.g. multimedia classrooms
TQM
User Support